

ANNUAL FUND RAISING IN PUBLIC HIGHER EDUCATION:  
THE DEVELOPMENT AND VALIDATION OF A PREDICTION EQUATION

By

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Philanthropic support of higher education has a long tradition; however, the largest portion of that philanthropy has historically been directed to private institutions. In order to supplement the basic, and often insufficient, funds from state government, research contracts and grants, and tuition, public college and university leaders increasingly have been seeking private support from their alumni. However, there is a lack of research about those variables that tend to differentiate among alumni in regard to the extent of giving. Given this situation, the purpose of this study was to identify variables that could be used by public college and university leaders and fund raisers to predict the extent of alumni giving.

Using a survey instrument derived from the literature and, in part, confirmed by expert opinion, 354 alumni of a

land-grant university responded to a 53-item survey instrument. Using the items in that instrument which were significantly related to one of three measures of alumni giving--donor status, total dollars given, number of years contributing \$100 or greater--when entered into a multiple regression equation ( $p < .15$ ) and/or when correlated ( $p < .01$ ), a second alumni sample ( $n = 360$ ) responded to a revised survey instrument consisting of 41 items. This second sample was used to cross-validate the findings of the first survey process.

Based on the three prediction equations developed, one for each measure of alumni giving, it was concluded that there is an identifiable set of variables that contributes significantly to measuring the extent of alumni giving and these variables can be used to explain a considerable portion of the variance in such giving (from 19.6% through 28.3% in the second sample). Further, when actual responses from the second alumni sample were correlated to predicted values, R square values ranged from .1929 through .2512. The best predictors of the extent of alumni giving were defined as those which appeared in all three prediction equations. These items and the profile they created were that alumni with higher degrees, who perceived the university to be in great need of financial support, who graduated in earlier decades, and who were males are more likely to contribute.



## CHAPTER I

### INTRODUCTION

#### Background and Rationale

During the 1984-85 academic year, alumni contributions to colleges and universities in the United States reached a staggering \$1.46 billion (Voluntary Support of Education, 1986). Philanthropic support of higher education is a centuries-old tradition. However, much of this philanthropy has been directed to private colleges and universities, and a majority of it has been in the form of rather large donations.

All our earliest colleges were founded and largely supported by philanthropists, and were usually under religious auspices. Harvard College, oldest of them all, was established in 1636 with a grant of £400 from the General Court and a gift of £779 together with a library from the Reverend John Harvard. (Andrews, 1950, p. 189)

As colleges and universities have progressed through the 20th century they have increasingly turned to their alumni for broad-based financial support. The leadership of distinguished private universities such as Yale, "coupled

with the growing strength of the alumni movement as newer colleges and universities developed, brought the [annual] fund to full bloom in the 20th century" (J. G. Johnson, 1979, p. 1). While this aspect of philanthropy is more noted for smaller gifts, it is the steady, dependable nature of alumni support that makes it so attractive.

Although private support has long been important to private institutions, it is an idea just now coming into its own at many public colleges and universities. As recently as the middle of the 20th century, however, most philanthropic activity in higher education took place in private colleges (Andrews, 1950).

Annual fund programs are now conducted at a majority of public institutions across the country. The standards of operation for these programs have been largely borrowed from private college fund-raising experiences and also from commercial sales techniques.

Notably missing is a body of research pertaining to public college annual fund raising. Alumni contributed \$471,048,444 specifically to public higher education annual funds in 1984-85 (Voluntary Support of Education, 1986). However, little is known about why these alumni supported their alma maters to the extent they did and why other alumni did not.

The University of Florida annual fund leaders have observed that alumni do not necessarily give in proportion to their financial ability (R. Talbot, personal

communication, May 7, 1986). What was not known was why they either did or did not give, and, if they did give, which variables were motivational in the decision-making process? As is shown in the literature review, existing research was limited and basically local. There was no model that an institution might use to help predict how best to target its fund-raising efforts.

The focus of the research reported herein was to identify critical variables which motivate philanthropic support of an institution by its alumni. Knowledge of these variables would allow college and university fund raisers to position their annual fund-raising efforts more advantageously.

### Purpose and Overview of the Study

The primary purpose of the study was to identify a set of variables that could be used by public college and university fund raisers to predict the extent of alumni giving which might be expected. In order to accomplish this purpose, there were five research phases as described below:

1. A review of the literature was conducted to identify major conceptual categories of variables that have been found to be related to alumni giving. Additionally, a list of specific behaviors and characteristics in each category were identified.

2. Based on the search of the literature and the resulting categories of variables and behaviors and characteristics identified, a first draft of a survey instrument was developed containing those variables seen as potentially useful in identifying the extent of alumni giving.
3. The first draft of the survey instrument was reviewed by experts in the field. Forty of the directors of the 91 public doctoral universities listed in Voluntary Support of Education (1986) were randomly selected and asked to review the proposed survey instrument.
4. A stratified random sample of 100 alumni in each of five specified strata (500 total) was used as a first field test of the survey instrument. With a few exceptions, items that did not relate to the extent of alumni giving were eliminated. Prediction equations were formulated based on the results of multiple regression analyses.
5. In a cross-validation phase of the study, a revised form of the survey instrument was mailed to a different stratified random sample of 100 alumni in each of the five specified strata (500 total). In effect, the efficacy

of the prediction equations derived in step four was tested by applying the equations to responses of this second independent sample. The sections on data analysis contain an elaboration on the five research phases above. Summarily, the following questions were addressed:

1. Which variables contribute significantly to measuring the extent of alumni giving? What percentage of variance is explained?
2. When variables are entered sequentially into a prediction equation, what combination accounts for the greatest proportion of variance in predicting the extent of alumni giving?
3. When a prediction equation derived from one sample is tested on another sample, what proportion of the variance is explained?

#### Delimitations and Limitations

The following delimitations and limitations of the study should be recognized:

1. All potential predictor variables were identified from the literature review. This limited the variables to areas studied previously by other researchers. A copy of the proposed survey instrument was mailed to a random sample of annual fund directors at

public doctoral universities in the United States. Harty (1979) explained,

The content validity of a survey instrument can be established by showing that the variables are representative of the total population of questions available on its topic. It is established by submitting the survey instrument to a small group of experts in the field and soliciting their constructive criticism and input with respect to content selections. (p. 52)

2. A random sample of 40 annual fund directors was selected from the 91 public doctoral universities as listed in Voluntary Support of Education (1986). The names and addresses of the annual fund directors were listed in the 1986 edition of the CASE Membership Directory. Listings in each of these publications is limited to those colleges and universities from which a response is received each year to a survey instrument which updates the institution's entry in the next edition.
3. Only the annual fund aspect of fund raising was studied. Planned giving (estates and wills) and capital giving (large, one-time gifts) were not part of the research.
4. Responsiveness to the survey instrument could have been affected by the time of year in which it was mailed, the relative favor or

disfavor in which the university was viewed at the time the survey instrument was received, and the appearance of the survey instrument itself including the envelope in which it arrived. These were threats to internal validity.

5. External validity was limited mainly by the fact that the population sample consisted of alumni from a single public university. In addition, annual fund raising in public higher education was studied and not included were private higher education, elementary or secondary education, and other non-profit organizations such as churches, hospitals, and charities.
6. Since the study was predictive by design, it would be erroneous to assume that there exists a cause and effect relationship between the predictor variables and the behaviors measured. In addition, variables found to be highly correlated with others were omitted during the research process since only one variable was needed as a measurement of any given behavior. Deletion of a variable did not, then, necessarily imply its unimportance.

### Justification for the Study

The justification for this study was twofold. First and foremost was the need in the rapidly-evolving field of development for a survey instrument which could create a prediction model that, in turn, would assist in screening the masses of alumni of public colleges and universities for the purpose of aiming fund-raising appeals effectively. The rising costs of conducting fund-raising programs mandated a more judicious use of resources. Furthermore, fund raising in public higher education had evolved from the infancy to adolescence, at least at most institutions. No longer could fund-raising programs be operated on an ad hoc basis. A professionalization of the field of fund raising was occurring, and a prediction model was considered to be of possible assistance in targeting annual fund appeals. Secondly, the development, testing, and use of the survey instrument and the subsequent creation of the prediction model through a sampling of University of Florida alumni, would provide beneficial data for that specific institution.

"The annual fund is the core of the development effort" (McCaskey, 1983, p. 34). From the annual fund stems the other two branches of fund-raising: planned giving and capital giving. Major support from individuals is often rooted in the university's annual fund program. Estate and cash gifts of significant size often come from alumni who



began their support, many years earlier, with small, annual gifts.

The annual fund is considered by most to be the real base of private voluntary support (J. G. Johnson, 1979, p. 1). Collectively, alumni support through the annual fund generated almost a half billion dollars in 1984-85. This represents 39% of total alumni support during that period (Voluntary Support of Education, 1986, p. 9).

At the University of Florida, alumni support of the annual fund reached \$1,244,446 in 1984-85, representing 31% of total alumni giving during that time (Voluntary Support of Education, 1986, p. 13). Unlike the larger gifts which comprised the remaining 69% of the university's alumni support, the annual fund gifts--though relatively small--were largely unrestricted. The university's president and deans find these monies very useful in funding numerous projects not covered by government support, tuition, or private support in the form of larger gifts with restricted use (e.g., a \$1,000,000 gift to fund a center for Greek studies).

The annual fund, then, is not only of significance in and of itself, it is also essential to the total fund-raising program of the institution. The total fund-raising, or development, program has become paramount to the future of the university.

As stated earlier, alumni support nationwide reached \$1,460,000,000 in 1984-85. This figure represents an 11.9%

increase from a year earlier, against an inflation rate of 3.9% as measured by the Consumer Price Index (CPI). After adjusting for the Higher Education Price Index (HEPI), an increase of 9.9% over the 1979-80 figure is seen ("Corporations," 1986, p. 1). It would be logical for leaders of an institution to ask how they could increase alumni participation in the annual fund? Increased annual giving would not only directly increase financial support in that area, but it should also lead indirectly to an increase in both planned and capital gifts.

While the financial significance of alumni support was easily proved numerically, there was little in the literature about the motivation of alumni to give or not to give, to give in certain amounts, and to give with certain frequency. Likewise absent was a survey instrument which could be used to predict future giving by collecting data on a set of variables from a sampling of the alumni of an institution.

#### Definition of Terms

For the purpose of this study, the following definitions apply:

Annual donor. In this research an annual donor is an alumnus who has given at least one gift annually to the university for at least four of the last five fiscal years (1981-1982 through 1985-1986).

Annual fund. The annual fund is the branch of fund raising which deals with annual support from alumni. (The two other branches are capital gifts, which usually involves one-time larger gifts, and planned giving which deals mostly with estates and wills).

CASE. The Council for Advancement and Support of Education is the major organization associated with educational fund raising. The mission of CASE is to offer programs of professional development and to act as a public affairs arm for U.S. education.

CFAE. The Council for Financial Aid to Education is a not-for-profit organization supported by 350 leading corporations. It reports annually on contributions received from all sources by colleges and universities and on corporate support to education. These two reports provide the definitive data in the field.

Development. The meaning of development has evolved over the years, but herein it is used as a synonym for fund raising.

Direct mail. Annual fund programs are often conducted by the mail. Letters, brochures, and other printed materials are often used to urge prospective donors to give.

Donor. An alumnus who at some time has made a gift of cash, securities, property or in-kind to the university is termed a donor.

Extent of giving. The extent of giving is used herein to describe the degree of alumni giving including whether or

not giving has taken place (donor vs. non-donor status) as well as frequency and amount of giving.

Friend. A non-alumnus individual who did not attend or graduate from the college or university is called a friend.

Institutional advancement. The total program of fund raising, public relations and communications, and alumni programs (Pray, 1981) is defined as institutional advancement.

Non-donor. An alumnus is a non-donor when his or her record shows no contributions of any type or size to the university.

Phonathons. Increasingly, annual fund programs employ telephone calls directly to alumni to solicit pledges of support; these are called phonathons.

Private support. Contributions made directly to a college or university from individuals, corporations, foundations, and organizations, and not connected with fees for service or research grants, are collectively termed private support.

Sporadic donor. An alumnus is a sporadic donor when he or she has given at least once but less than four times during the past five fiscal years (1981-1982 through 1985-1986).

### Organization of the Remaining Chapters

Contained in Chapter II is a review of the related literature which primarily served to identify possible variables which might differentiate donor status among alumni. Chapter III contains the procedures utilized in conducting the study. Chapter IV is a presentation of the results of the investigation. In Chapter V the results are summarized, the conclusions presented, and both are discussed.

## CHAPTER II

### REVIEW OF THE LITERATURE

The review of literature is organized into five sections. A brief history of philanthropy in general is followed by a review of philanthropy in higher education. Then, the annual fund in particular is discussed, followed by a review of fund-raising research. A rationale for the development of a survey instrument, such as was the focus of this study, and a summary conclude the literature review.

#### Philanthropy: A Brief History

"Philanthropy is a major part of our society as well as our way of life" (Cumerford, 1978, p. 200). Many Americans accept some level of responsibility to give for the benefit of others. How did we get to this point in charitable giving?

In a review of the world-wide history of philanthropic giving, Andrews (1950) began with primitive people who had little need for almsgiving. "To belong to a numerous family was to have aid to dependent children, maternity benefits, unemployment insurance, home relief, what medical care was

available, fire insurance, an old-age annuity, and free burial" (p. 29). In the Orient, this strong sense of family existed from the earliest records. An entire village might function as an extended family in Taiwan, for example, and support its members with voluntary gifts of food, clothing, and medicine.

In pre-Christian Egypt, a record of giving was often motivated by a desire to "improve one's lot after death" (p. 30). Pity was the strong motivator as the emphasis in this culture was on meeting the needs of the destitute.

On the other hand, the Greeks and pre-Christian Romans stressed kindly acts towards people in general, rather than the poor specifically. Cicero suggested as gifts "walls, ships, ports, aqueducts; and of lesser value, theaters, colonnades, and new temples" (p. 32).

The Judaeo-Christian influence was strong and it stressed giving to God and to the poor. "If you would be perfect, go, sell what you possess and give to the poor, and you will have treasure in heaven; and come, follow me" (Matthew 19:21).

During the middle ages the church became the central focus of philanthropic activity. Giving to the church supported not only religious activities, but also included care of the aged, the sick, and the poor.

The struggle between church and state also involved philanthropy. "In 1014 King Ethelred [of England] decreed that one-third of the tithe of the church was to be given to

'God's poor and needy men in thralldom'" (Andrews, 1950, p. 50). In the 16th century the British passed legislation for relief of the poor.

A sick club for Roman Catholics was created in England in 1782, and was perhaps the earliest form of health insurance as we know it today. Later, in the 18th century, Sir Thomas Bernard founded The Society for Bettering the Conditions and Increasing the Comforts of the Poor. While other countries enacted programs and legislation, Great Britain remained the proving ground for work in philanthropy in general for many years.

In the United States, philanthropy has become an important area for both the public and private sectors. Especially during the 20th century, government has assumed a greater responsibility for welfare purposes that were deemed a century earlier to lie solely within the realm of private charity. "The longest single stride in this direction came with the Social Security Act, passed in 1935 but broadened by later amendment" (Andrews, 1953, p. 42). The importance of private support, however, has not diminished.

In the fields of education, health, and welfare, private gifts have long supported "the pioneering ventures which are now accepted as essential public services" (Young as cited in Andrews, 1950, p. 5). So ingrained in our society is philanthropy that it is difficult to imagine life without it. Whether people give out of a deep sympathy for human kind or because of a desire for personal gain (either



here or in the hereafter), charitable giving has become an integral part of our society.

### Philanthropy in Higher Education

Even though in recent years a number of large public school districts have established educational foundations for the purpose of supplementing tax revenues, and there has been a history of fund raising among church-affiliated elementary and secondary schools, philanthropic support of education has been largely confined to colleges and universities. The establishment of Harvard in 1636, described earlier, was made possible by private support. Numerous private institutions followed, and as recently as 1950 it was seen that the majority of philanthropic contributions went to private colleges and universities (Andrews, 1950).

Large gifts provided for the creation of a number of other private colleges, including Amherst in 1821 and Johns Hopkins in 1876. Leaders of these colleges and others, however, discovered that a base of support broader than the initial endowment was needed to sustain the institution in the years ahead. When there was a complete loss of income on the major part of the Johns Hopkins endowment "it was tided over its day of peril by leading Baltimore businessmen and, for two years, even by annual grants of \$50,000 from the Maryland legislature" (Pollard, 1958, p. 13).

At a dinner of Princeton alumni in 1902, Woodrow Wilson announced that \$2.5 million was needed for further development of the university. Pollard (1958) quoted Wilson as saying that "'Princeton has ever since her birthday stood for the service of the nation'" (p. 14). Wilson and many others serving in various types of fund-raising roles have been successful because, according to Pollard, support can be obtained from individuals who believe in the "importance and quality of the service that the institution is giving to society" (p. 14).

Today the call for private support of higher education is not only louder but also better articulated than several decades earlier. From experience it has been learned that the financial foundations built today "will greatly affect the strength of our colleges, universities, and independent schools in the coming decades" (J. L. Fisher, 1981, p. xi). University leaders have been challenged by declining enrollments, concurrent reduction in income, and until recently, inflation-driven rising operational costs. These, coupled with limited federal and state appropriations, as well as shrinking federal dollars for research, create a problem many find solvable through increased private support.

To encourage this private support, early college leaders sought first the major benefactors and then a broader base of support as described previously. Fund raising as a process developed into a profession. From a

1936 survey by the American College Public Relations Association (ACPRA) it was revealed that fewer than half of the colleges and universities surveyed had alumni fund-raising activities (Pray, 1981, p. 1). From another ACPRA survey in 1942, similar results were found.

The Ford Foundation sponsored the Greenbriar Conference in 1958 to hammer out the concepts of the heretofore slowly growing field of fund raising. Representatives attending the conference linked fund raising, alumni relations, and public relations into a common program focused on increasing the understanding and support of an institution among its constituencies. This organizational framework has since been widely adopted and adapted as the modern era of development in higher education has been ushered in. Almost a decade after the Greenbriar Conference, Seymour (1966) observed that development had become part of the present and the future. Today, membership in the Council for Advancement and Support of Education includes the majority of colleges and universities in America.

In 1926, private gifts to education were \$17 million, while in 1948 they had risen to \$91 million. The recently published Voluntary Support of Education (1986) reported private support of \$6.32 billion. This figure has almost tripled since 1974-75. "That voluntary support has continued to rise despite the sluggish economy of recent years and the uncertain economic future is encouraging" (p. 5).

Brakeley (1980) compared educational fund raising to philanthropy in general when he stated that "institutional fund-raising efforts have, on the whole, kept pace with the steady increases in total philanthropic giving in the past quarter century" (p. 153). Private colleges still receive the larger portion of voluntary support. However, in the decade between 1974-75 and 1984-85, support received by public institutions quadrupled while private institutions noted gains of less than three-fold.

The Council for Financial Aid to Education offered a caveat, however, when it stated "that despite the expansion of voluntary support, its contribution to total institutional revenue is not sufficient to offset current and expected cutbacks" (Voluntary Support of Education, 1986, p. 5). The pressure is on development as a profession to fill as much of this void as possible. Enhanced professional skills and knowledge in each of the three branches of fund raising--capital, planned, and annual giving--will be necessary.

Brakeley (1980) suggested that no limit exists to fund-raising's potential. He went as far as stating that voluntary support could double if the "institutions which rely on philanthropy go about their development and fund-raising activities in an assertive, well-planned, professional fashion" (p. 3).

Philanthropy in the Form of the Annual Fund

"Annual giving is the production line of development, grinding away, year after year enlisting the broad base of donors in support of the institution, selling its needs for ongoing support with increased urgency as costs continue to rise" (Pray, 1981, p. 24). The importance of annual giving by alumni is based on the fact that capital gifts and planned gifts emerge from the mass of annual gifts. In addition, corporate and foundation support is often given in proportion to observed alumni support.

John G. Johnson (1979), vice president for development at Carnegie-Mellon University called the annual fund "the real base of private voluntary support" (p. 1). More recently, Payton (1982) referred to it as critically important to the educational system. The chief values of the alumni fund were expounded by Pollard (1958).

1. The fund ordinarily brings in unrestricted money, of which no institution of higher education ever receives enough.
  2. It can generally be considered and used as a 'budgeted asset' and applied to current operating expenses. To this extent it is, as many institutions call it, 'living endowment.'
  3. The fund is not only a dependable backlog for current operations, but a feeder line. Once an alumnus or other friend forms the habit of annual giving to a college or university, it has a prospect for a capital gift now and then during his lifetime, or for a bequest.
  4. A regularly contributing alumnus is a positive advocate of an institution's program, needs, and opportunities--a kind of ambassador.
- (p. 93)

Annual giving was described by M. J. Williams (1981) as the bread and butter of a development program. That observation was a reflection of Sheppard (1977) who quoted a University of Pennsylvania brochure:

Annual giving is the custom of making a gift-a-year to an institution in which one has faith. It is a friendly, altogether happy custom . . . a perennial reunion in spirit . . . a pooling of hope and good wishes by those who wish the institution well. (p. 6)

Pray (1981) stated that he knew of no institution where the leaders believed the full potential of annual giving had been reached. The door to the future, then, seemed wide open.

#### Research Involving Fund Raising

Research relating to fund raising but not directly involving the public university annual fund, can be compiled into several groups. This body of research involves studies of fund raisers, private college development, athletic program fund raising, and other aspects related to development. Following is a brief review of those studies thought to be peripheral in scope to the study reported herein. The inclusion of peripheral studies is meant to provide a broad overview of all related literature. In the latter part of this section, explored in more detail, is the pertinent research performed in public institutions.

The fund raiser or development officer has been studied by several researchers including Colola (1980) and Willard

(1984/1985) both of whom examined the roles in private colleges. Mays (1985/1986) examined the role of fund raisers at public community colleges, while Winter (1983/1984) studied roles in both private and public institutions. Development officers' familiarity with modern marketing techniques was researched by Steinberg (1984). In 1981, R. E. Williams examined the career patterns of women in educational fund raising. Tauber (1983/1984) studied the barriers to success in fund raising as a career.

Fund raising at private colleges and universities constitutes the bulk of related research. Specific college development programs have been studied including Drake University (Chewning, 1984/1985), Cumberland College (Taylor, 1984), and Pasadena College (Armstrong, 1961/1962). In addition, Haddad (1986/1987) studied the characteristics of alumni donors and non-donors at Butler University. He found significant differences between donors and non-donors when the following characteristics were analyzed: age, number of children, children's age range, distance lived from Butler, major college of study, degree earned, graduation period, fraternity or sorority affiliation, involvement in student activities, involvement in alumni activities, and whether spouse contributed to Butler.

Cooperative fund raising involving private colleges was researched by Timmins (1962/1963) and Morton (1963). The former involved examination of the United Negro College

Fund, the Independent College Funds of America, and the National Fund for Medical Education. The latter ascertained the present and future significance of cooperative state and regional fund-raising organizations.

Private two-year college fund-raising programs were the focus of research by Gallagher (1964/1965) and Mitchell (1980/1981). Small private four-year colleges and development programs were researched by Gabrielsen (1975), Willmer (1980), and Glennon (1985). Music schools were the subject of Fleming (1984) who was one of the few to examine this specific area of higher education fund raising.

Many similarities were found between the fund-raising techniques of private colleges and non-profit hospitals in California when Welch (1983) compared the two. Thompson (1983) analyzed the techniques used by Church of Christ-related four-year colleges.

A method of evaluating the effectiveness of alumni fund raising in private liberal arts colleges was developed by Paton (1983). Earlier Backrow (1961/1962) determined the prevalence of selected procedures and practices in fund raising in certain private institutions and then evaluated the effectiveness of those procedures and practices. The effectiveness of the fund raising policies of private undergraduate colleges was the core of the research by Pickett (1977).

The annual fund at private colleges was studied by Wolshon (1981), Drew (1983/1984), and Tobin (1984/1985).



The research of Wolshon (1981) resulted in data which would be useful in organizing or improving annual fund programs. It involved alumni of Wayne State University. Drew (1983/1984) analyzed alumni giving at Bethel College and ranked the effectiveness of different fund-raising techniques including personal visitation, phonathons, and direct mail solicitation. Tobin's (1984/1985) ethnographic research of Stanford University alumni focused on the institution's communications with potential donors. In a study of particular importance to the present research, Beeler (1982) tested the extent to which 14 demographic and attitudinal variables discriminated between alumni donors and non-donors, and between limited donors and substantial donors to a private university. Eight variables differentiated donors and non-donors: graduation year, undergraduate school, recipient of institutional scholarship or grant, enrollment at another college subsequent to graduation, distance of home to campus, occupation, satisfaction with undergraduate preparation for first job, and emotional attachment to alma mater.

A useful computer model was developed for Wesleyan's annual fund by McCaskey and Dunn (1983). The researchers used data from previous annual fund efforts to predict what might occur in the next decade. McCaskey and Dunn found that if the Wesleyan annual fund continued in its present direction, it would actually raise less money in the future due to the changing demographics of the alumni population.

To avert this occurrence, the researchers suggested a greater emphasis on \$1000-plus gifts from members of older classes.

Athletic program fund raising has been of interest to a number of researchers including Frederick (1984/1985) who found a positive correlation between football success and membership in the Kansas University Alumni Association. Donors and non-donors to intercollegiate athletics at the University of Missouri were the subjects of a study by Sinatra-Ostlund (1984). Athletic fund raising programs from 10 colleges west of the Mississippi River was the research topic of Kern (1983/1984). On the other side of the country, Richards (1983) analyzed the fund raising methods for intercollegiate athletics in Philadelphia's "big five" universities.

Hammersmith (1985/1986) developed a survey instrument to profile donors to athletics. She found the following to be the more discriminating variables: donor's occupation, home state, proximity to campus, income, type of campus visits, contributions to other units on campus, methods of giving, length of time as a contributor, frequency of participation in certain events, preferences for donation request, motivations for donating, and evaluations of the athletic department. Brooker and Klastorin (1981) of the University of Washington examined the relationship between athletic success and alumni contributions at 58 major universities. A significant positive relationship was found

in many cases. Sigelman and Bookheimer (1983) of the University of Kentucky confirmed that success in football was the best predictor of athletic contributions.

Despite the interesting nature of the studies involving athletic program fund raising this researcher did not place great value on this aspect of fund raising research as it pertains to annual fund research. This was because most athletic contributions are tied to ticket purchases which, in turn, make the giving process one of lesser altruism.

The role of the trustee at six independent liberal arts colleges was studied by Ashfield (1965/1966). The board of trustees of Catholic colleges and universities was examined by M. J. Fisher (1986). University foundations and their roles in development were the topics of Reilley (1980/1981), Swanson (1981/1982), and Worth (1982/1983). A model graduate curriculum in fund-raising administration was created by Wood (1983/1984). A subject certain to receive further study is the role of the college president in fund raising. Green (1981) identified fund raising as the most important concern of college presidents in independent higher education in this decade.

Research involving public colleges and universities includes that of Sherratt (1975/1976) in his study of fund-raising methods and techniques. Stout (1977/1978) conducted a study of fund-raising programs at selected multicampus universities. An examination of the total fund-raising programs of state colleges and regional universities was

made by McGinnis (1980). Hornbaker (1986/1987) determined which institutional advancement characteristics were the most effective in raising gifts from the private sector in California private and public colleges and universities. Foundations of public two-year colleges were the subject of a study by Luck (1974) and J. J. Johnson (1986/1987).

Moving closer to the annual fund and one of its major techniques of fund raising, both Thomas (1962) and Kennedy (1982) evaluated the effectiveness of direct mail solicitation. Interestingly, Thomas concluded that the success or failure of direct mail appeals was not due to the mailing itself, but was a result of external influences such as "the characteristics of the alumni body to which it was directed" (p. 112). On the other hand, Newman and Pearson (1983) of Rutgers University claimed a 37.4% dollar increase and a 23% alumni participation increase in just one year after using a direct mail campaign designed by a Madison Avenue advertising agency. Their direct mail materials later won an award from CASE.

Georgia State University alumni and their contributions to the alumni annual fund was the basis of research by Blumenfeld and Sartain (1974). Donors were most likely to be "male, business school students, Georgia State University graduates, holders of a master's degree, economics majors, with high or low undergraduate grade point average, and with moderate to high graduate grade point average" (p. 522).

The difference between givers and non-givers to the University of Georgia Annual Fund were probed by Miracle (1977). He found that current university awareness, community and charitable involvement, and University of Georgia degrees significantly accounted for differences between alumni who gave and those who did not give.

Iowa State University alumni and their giving were analyzed in a 1985 study by Dietz. He compared alumni from the classes of 1974 and 1979 and their history of giving to athletics and academics. Dietz made two general observations: Alumni of the class of 1974 contributed at higher levels, and alumni from both classes gave more to academics than to athletics. He also found that a number of characteristics revealed through data collection were statistically significant in describing alumni in the categories of giving for the two graduating classes. These characteristics did not allow generalization and are too numerous to mention here.

McNally (1985) analyzed alumni philanthropy related to personal, academic, and social characteristics. His study involved alumni of California State University at Sacramento (CSUS) from the classes of 1980 through 1983. Results revealed that none of the personal characteristics of age, gender, or occupation differentiated contributors and non-contributors. Likewise, academic characteristics (degree, graduate status, department/school, and field of study) did not differentiate alumni. Social characteristics

(memberships in student organizations while attending CSUS) differentiated contributing and non-contributing alumni in only one case: Members of special interest groups were more likely than alumni to be contributors.

A mixed sample of alumni from private and public colleges were surveyed by Leslie, Drachman, Conrad, and Ramey (1983), who studied alumni giving in relation to selected economic variables. They concluded that alumni gave more when they perceived the needs of the institution to be greater, and that they gave for personal reasons rather than financial reasons.

In 1982, CASE contracted with Group Attitude Corporation (GAC) to conduct a nationwide survey of public attitudes towards higher education. GAC President Walter Lindenmann (1983) reported a number of findings including the fact that 26% of those surveyed said they had made at least one donation of some size and type to the undergraduate college they attended. At annual income levels under \$40,000, respondents were about half as likely to have given than were their counterparts who earned \$40,000 a year or more. The latter group reflected giving among 51.9% of its members. College attendees who did not graduate were only a third as likely to give as those who had graduated (40.2% of graduates gave at least once). Those who attended a religious college had the best record of giving at 47.6%. Of the independent college respondents

and public college respondents, 33.1% and 22.3%, respectively, had made a contribution.

Also, from the GAC survey it was concluded that Americans place a greater emphasis on the role of private support in independent and religious institutions of higher education. Public colleges and universities should receive the bulk of their support from federal and state governments, according to those surveyed (Smith, 1983).

#### Summary and Implications for Present Research

Philanthropy is at least as vital to higher education as it is to the other recipients of its generosity. Throughout America, college and university fund raisers have forged a profession from the act of encouraging charitable giving. "Despite its successes, advancement has a major flaw that we can no longer ignore. Our profession doesn't put enough emphasis on formal research" (Rowland, 1985, p. 8). If the annual fund is indeed the "core of the development effort" (McCaskey, 1983, p. 34), then it certainly needs to be researched.

Absent from the literature was a survey instrument which could be used to predict the extent of alumni giving to the annual fund program of a public university. Review of the related literature reveals a number of variables which others have included on instruments administered in somewhat related situations.

Sanders (1985, p. 24) suggested the following essential variables for alumni surveys: sex, age, marital status, number of children, annual family income, community size, length of time contributing to the university, interests in relation to alumni programs, source of information about alumni programs, number of books and magazines read last year, thoroughness of review of alumni materials, presence of a will, presence of charitable bequest in the will, inclusion of institution in the will, ownership of a gift annuity, ownership of stocks, education, church membership, civic club membership, and support of other charitable causes.

In her study of predictors of alumni donors and non-donors to intercollegiate athletics, Sinatra-Ostlund (1984) included many of the above. In addition, the instrument she developed included number of years since graduation, specific college attended within the university, current profession, distance from campus, number of family members who are alumni, number of family members hoping to attend the university, receipt of student financial aid, fraternity/sorority membership, and student club membership.

Dietz (1985) administered a survey instrument to Iowa State University alumni from the classes of 1974 and 1979. The questions he asked that have not already been mentioned involve the following: evaluation of the effectiveness of the college education, degree of allegiance with the university, postgraduate education, specific involvement



with the institution, perception of public rating of the university, frequency of campus visits, interest in campus news, interest in making a financial contribution, opinion of the importance of private support, and interests outside family and work.

In addition to the above variables, the instrument developed by McNally (1985) for analyzing alumni philanthropy at California State University at Sacramento included ethnic origin and evaluation of specific alumni association programs. Also included was an opinion question on the value of various student organizations.

Miracle (1977) surveyed givers and nongivers to the University of Georgia annual fund. Variables included in his survey that have not been previously cited were political party affiliation, amount of volunteer work, alumni association involvement, class reunion attendance, number of fellow alumni in contact with, frequency of giving to the annual fund, knowledge of the annual fund program, factors that initiated the first annual fund gift, factors that resulted in not contributing, opinion on from where higher education support should come, necessity of working while in college, and overall attitude toward the college.

Throughout the literature review it can be seen that previous research has confirmed a number of generalities, such as the fact that alumni with larger incomes tend to donate larger amounts. More detailed study has been made of private college development programs and of athletic

fund-raising efforts. Due to the relative newness of fund raising to the campuses of public colleges and universities, less research exists in this realm of development. The annual fund at public institutions of higher education seemed, in particular, to lack a thorough and recent study of alumni contributors. As such, the research reported herein was seen as needed because it was more comprehensive. That is, there was need for a prediction model with the identification of an optimal subset of predictors that could be utilized by other public colleges and universities across the nation.

## CHAPTER III

### RESEARCH METHODOLOGY

The study was divided into five phases which were (a) to identify from the literature variables that had been found to be related to contributing, (b) to develop a first draft of a survey instrument that was intended to differentiate donors from non-donors, (c) to secure a review of the survey instrument from a sample of development experts, (d) to field test the survey instrument among a sample of alumni of a single university, and (e) to field test the revised survey instrument among another sample of alumni of the same university. Analysis was intended to determine which survey instrument variables best predicted the extent of alumni giving. This chapter is divided into four parts: selection of the research samples, instrumentation, data collection, and data analysis.

#### Selection of the Research Samples

As was mentioned previously, the study consisted of five phases. In the third phase, the proposed survey instrument was mailed to a random sample of 40 annual fund

directors at the 91 public doctoral universities listed in Voluntary Support of Education (1986). These 40 individuals' names and addresses were obtained from the CASE Membership Directory (1986).

The survey instrument, as revised after the annual fund directors' review, was mailed to a stratified random sample of 500 alumni of the University of Florida as part of phase four. This sample size exceeded the necessary minimum sample size and was appropriate for the statistical analysis employed. The sample was drawn from the population of approximately 115,000 alumni whose records were maintained by the University of Florida Foundation, Inc. Only living alumni with valid addresses who normally received mail from the university were included in the population from which the sample was drawn. Stratification ensured that 100 alumni in each of the following strata were represented in the sample:

1. Non-donors
2. Sporadic donors of less than \$100
3. Sporadic donors of \$100-\$1000
4. Annual donors of less than \$100
5. Annual donors of \$100-\$1000

The rationale of using contribution levels of less than \$100 and \$100-\$1000 was that they corresponded to the suggested levels of giving and to the gift clubs of the university. The levels of giving used at the university were typical of

those used by other colleges and universities across the country.

Phase five involved mailing the finalized survey instrument. It repeated the procedures of phase four with a stratified random sample of 500 different alumni (100 in each stratum).

### Instrumentation

A copy of the survey instrument used in phase four is presented in Appendix A. Alumni were asked to respond to demographic and opinion items.

Section A of the survey instrument contained items that focused on proximity to campus and university contact since graduation. The university experience was the focus in section B. Opinions on private support were sought in section C, while in section D the questions related to the university and the respondent's family. More personal items were contained in section E (e.g., age, income, employment status). Community involvement was queried in section F. An alumnus who had not contributed to the university received a version of the survey instrument that ended with section F.

Additional descriptive data were sought from previous donors (donor status levels two through five). A Likert scale was used for responses in section G where the alumnus was asked to rate the university. Sections H and I were

meant, respectively, to determine by what methods of solicitation the alumnus responded and how important certain variables were in the decision-making process relative to giving. A total of 53 variables were contained in the phase four version of the survey instrument.

The items contained in sections A through F that did not relate to the extent of alumni giving at one or both of the specified levels of significance (see data analysis) were deleted from the phase four survey instrument after analysis. Of the original 39 items in sections A through F of the phase four survey instrument, 27 met one or both of the specified levels of significance and were retained. As noted previously, sections G through I were administered only to donor status levels two through five. Therefore, it was decided to include each of these items, 14 in all, regardless of their statistical contribution. Therefore, the form of the survey instrument administered during phase five included a total of 41 items and is shown in Appendix B. Throughout the discussion of the data, instrument items are always referenced as they were numbered in the survey instrument appearing in Appendix A.

#### Data Collection

As described above, phase three involved review of the survey instrument by experts in the field. The experts (annual fund directors) were asked to indicate which

variables they felt would differentiate donors and non-donors, donation frequency, and amount (i.e., the extent of alumni giving). They were also asked to suggest additional variables that might differentiate. Because of the perceived importance of the expert review of the survey instrument to its validation, this phase of the research utilized the following procedures (Orlich, 1978):

1. The survey instrument and cover letter were mailed to the 40 annual fund directors.
2. Within one week a follow-up letter was mailed to the entire sample.
3. Within three weeks of the first mailing, a second survey instrument and different cover letter were sent to non-respondents.

The original plan was that the proposed survey instrument items indicated by 75% or more of the experts as potentially differentiating items were to be retained. New variables which might differentiate and which were suggested by 50% or more of the experts were to be added. Of the 40 annual fund directors, 25 (62.5%) returned the proposed survey instrument. The responses were such that deleting the items that were not confirmed by 75% or more of the experts would have reduced the survey instrument from 53 to 31 variables. (The interested reader is invited to review the instrument shown in Appendix A for the 31 items the annual fund directors thought might differentiate.) Furthermore, in no instance did 50% or more of the 25

experts identify additional items that might differentiate among donors and non-donors. Given the results from the experts, it was decided to retain the 53 survey instrument items for use in phase four.

After the expert review, the instrument and a cover letter were mailed with a postage paid return envelope to the stratified random sample of alumni described earlier (phase four). A second survey was mailed to non-respondents.

The mailing schedule for the survey was as follows:

1. The survey, cover letter, and return envelope were mailed with first class postage to the alumni selected in the sampling.
2. One week later a follow-up post card was mailed to the entire sample.
3. Three weeks after the initial survey mailing, a second survey, new cover letter, and return envelope were sent to non-respondents (Pride, 1983).

Data collection for phase five was performed by repeating phase four with a new stratified random sample as has been described. The mailing schedule for phase five paralleled that of phase four.



### Data Analysis

The criterion variable of concern in the study was the extent of alumni giving and for the purpose of analysis it was represented in three ways: (a) the five strata of alumni mentioned previously, (b) total dollars given over the past five years, and (c) number of years (during the 5-year period) of giving \$100 or more. The predictor variables were those which it was hoped would predict the extent of alumni giving. As can be seen by a review of Appendix A, the predictor variables included both demographic and opinion items.

The survey instruments returned during phase four were analyzed using stepwise multiple regression to reveal how well each variable predicted the extent of alumni giving. Multiple regression was the primary means of the analysis since it is a "multivariate technique for determining the correlation between a criterion variable and some combination of two or more predictor variables" (Borg & Gall, 1983, p. 596). Stepwise selection

lets us get rid of a previously entered variable that becomes redundant. . . . Any variable having a partial F not meeting the significance level for staying in is dropped. . . . Any variable deleted at any step goes back in the hopper and is eligible for reinclusion at a later step. The process terminates either when no new variables can be entered or when the one to be entered was the one dropped at the previous step. (Younger, 1979, p. 403)

In phase four each of the 39 items in sections A through F was entered into separate regression analyses for

each of the three criterion measures. The primary purpose of entering each of these was to identify those variables that would be retained in the survey instrument for phase five and to determine which would be used in the prediction model based on the phase four instrument. More specifically, items that contributed to the variance in any one of the three dependent variables used at a probability level of less than .15 met the first criterion for retention in the phase five instrument.

In addition to the use of multiple regression, data analysis for phase four also included the calculation of Pearson Product Moment correlation coefficients for all 53 items to determine the relationship between each predictor variable and each of the three criterion variables. This step was taken as another basis for identifying those variables which should be retained in the instrument for phase five. All items that correlated at  $p < .01$  were retained for phase five.

Furthermore, three prediction equations were constructed, one for each of the three criterion variables, utilizing those items which when entered into a reduced regression procedure had a  $C_p$ -statistic closest to and smaller than the number of variables already entered at a given step. In regard to the  $C_p$ -statistic, Younger (1979) noted that "in order to choose from among several candidate models, then, we calculate the  $C_p$ -statistic for each and pick the model for which  $C_p$  is closest to  $p$  [ $p$  = number of

terms in candidate model]" (p. 494). In practice, the point at which the  $C_p$ -statistic is closest to and smaller than  $p$  is most often used for selection of the model (M. Conlon, personal communication, April 16, 1987). This is endorsed by Younger (1979) who noted that "even if we find the true best model . . . it may be that . . .  $C_p < p$  by a little bit" (p. 494).

In summary, the data analysis in phase four involved entering each of the 39 items from sections A through F in a regression equation for each of the three dependent variables. Each item that was significant at  $p < .15$  was retained as an item in the instrument for phase five. Likewise retained were those items that correlated significantly with any one of the criterion variables at  $p < .01$  based on the Pearson correlation coefficients. Furthermore, as has been previously noted, all items in sections G through I, regardless of whether or not they met the criteria, were retained because those items were not sent to all the phase four sample. Most importantly, the phase four analysis included the construction of three prediction equations utilizing those items which, when entered into a reduced regression model, had a  $C_p$ -statistic closest to and smaller than the number of variables already in the regression. The regression weights estimated from this reduced model were used to create these prediction equations.

The procedure just described provided a basis to answer the questions about the individual variables that account for the greatest proportion of variance in giving and the combination of variables that yield a prediction equation which best accounts for the greatest proportion of variance in the extent of alumni giving.

Data analysis for phase five replicated the multiple regression procedures and the calculation of Pearson correlation coefficients of phase four, utilizing the items that were retained in the survey instrument for phase five. However, the more important part of the phase five analysis involved utilizing the three prediction equations derived in phase four. Residual analysis was performed to apply each of the three prediction equations to each of the 354 responses to the phase four instrument and each of the 360 responses to the phase five survey instrument.

"Although [the regression] procedures produce candidates for a final model, they do not necessarily come up with a final, appropriate model. Before deciding on a final model, one should look at the residuals to make sure their relationship is truly linear" (Younger, 1979, p. 464). In addition, for each criterion variable a predicted value was obtained by applying the prediction equation to the phase five sample data, and these predicted values were correlated with the actual values for each criterion. The square of these correlation coefficients yielded the cross-validated R squares. This final analysis permitted the third research

question to be answered, concerning the amount of variance that may be explained by the prediction equations of phase four when applied to the second sample in phase five.

## CHAPTER IV

### RESULTS

For the purpose of analysis the extent of alumni giving was measured in three different ways. First, the original stratum based on donor status (DS) to which the alumnus belonged was considered as the criterion (dependent) variable. The status levels were

1. Non-donors
2. Sporadic donors of less than \$100
3. Sporadic donors of \$100-\$1000
4. Annual donors of less than \$100
5. Annual donors of \$100-\$1000

The second criterion variable was the total number of dollars given (TD) over the past five years by each alumnus. The selection of six levels of this variable, listed below, was based on clusters of giving frequently found in fund raising.

1. \$0
2. \$1-99
3. \$100-199
4. \$200-499

5. \$500-999
6. \$1,000 or more

The number of years during the past five years alumni gave \$100 or more (NY100) was used as the third criterion variable for analysis purposes. NY100 included the following six levels:

1. 0 years
2. 1 year
3. 2 years
4. 3 years
5. 4 years
6. 5 years

The chapter is organized in three major sections. In the first major section, the results from the phase four data analysis are reported. This includes attention given to the relative contribution of each of the presumed independent variables to each measure of alumni giving (DS, TD, NY100), the relationship expressed in Pearson Product Moment correlations between each of the independent variables and each measure of alumni giving, and the three regression models using those variables meeting the specified criteria.

The second major section of the chapter is focused on the results from phase five of the study. Provided within this section is information which measures the effectiveness of the results of phase four. The chapter is concluded with

a review of the results in relation to the three basic questions posed in Chapter I.

#### Results From First Alumni Sample (Phase Four)

A total of 354 (70.8%) of the survey instruments were returned from the mailing of the phase four survey instrument to the first sample of 500 alumni. This included 44 responses from donor status one, 72 from DS two, 70 from DS three, 83 from DS four, and 85 from DS five. The distribution of responses from the sample is shown as part of Appendix A. Tables 1, 2, and 3 reflect the results of stepwise multiple regression procedures for each of the criterion variables--DS, TD, and NY100, respectively.

From a review of Table 1 it can be noted that 12 items had regression coefficients significantly greater than .00 at  $p < .15$ . These 12 accounted for a total of almost 30% of the variance in donor status. Furthermore, as can be seen from the table, item 26 alone, decade of graduation, accounted for 12% of the variance (i.e., those who graduated earlier were more likely to give more often and in larger amounts). This was followed by item 19 relating to perceived need for financial support and item 7 indicating highest degree received. That is, approximately 6% additional variance was added by the "need for support" item with those perceiving a strong need more likely to be at higher donor status levels, and another approximately 3% was



Table 1

Phase Four Stepwise Regression Procedure Summary  
Where Donor Status (DS) is the Criterion Variable

Step	Instrument Item Entered <sup>a</sup>	R <sup>b</sup>	R Square <sup>c</sup>	Cp <sup>d</sup>
1	26	.3451	.1191	52.5651
2	19	.4253	.1809	26.3226
3	7	.4585	.2102	14.9327
4	28	.4776	.2281	8.7731
5	39	.4931	.2431	3.8865
6	16	.5055	.2555	0.2142
7	24	.5146	.2648	-2.0154
8	29	.5215	.2720	-3.2948
9	30	.5319	.2829	-6.2760
10	9	.5382	.2897	-7.3993
11	27	.5444	.2964	-8.4672
12	14	.5472	.2994	-9.8149

<sup>a</sup> See the corresponding number in Appendix A for a description of the variable; all variables shown were significant at  $p < .15$ .

<sup>b</sup> R = multiple correlation coefficient.

<sup>c</sup>  $R^2$  = the proportion of the variance of the criterion variable (DS) accounted for by the independent variables (the identified instrument items).

<sup>d</sup> Cp-statistic is used to assist in the selection of items to be included in the prediction equations shown in Table 8. The equations include items entered in the regression procedure to the point where the Cp-statistic was closest to and smaller than the number of items entered at a given step.

Table 2

Phase Four Stepwise Regression Procedure Summary where  
Total Dollars Given (TD) is the Criterion Variable

Step	Instrument Item Entered <sup>a</sup>	R <sup>b</sup>	R Square <sup>c</sup>	Cp <sup>d</sup>
1	26	.3478	.1209	131.266
2	7	.4637	.2150	81.722
3	19	.5200	.2704	53.394
4	28	.5582	.3116	32.857
5	29	.5844	.3415	18.495
6	16	.5975	.3570	11.998
7	9	.6055	.3666	8.722
8	33	.6138	.3767	5.197
9	25	.6196	.3839	3.286
10	39	.6249	.3905	1.648
11	5	.6298	.3966	0.313
12	24	.6340	.4020	-0.646
13	36	.6377	.4066	-1.150
14	35	.6412	.4111	-1.588
15	30	.6443	.4151	-1.827
16	13	.6476	.4193	-2.083

<sup>a</sup> See the corresponding number in Appendix A for a description of the variable; all variables shown were significant at  $p < .15$ .

<sup>b</sup> R = multiple correlation coefficient.

<sup>c</sup>  $R^2$  = the proportion of the variance of the criterion variable (TD) accounted for by the independent variables (the identified instrument items).

<sup>d</sup> Cp-statistic is used to assist in the selection of items to be included in the prediction equations shown in Table 8. The equations include items entered in the regression procedure to the point where the Cp-statistic was closest to and smaller than the number of items entered at a given step.

Table 3

Phase Four Stepwise Regression Procedure Summary Where  
Number of Years Contributing \$100 or Greater (NY100)  
is the Criterion Variable

Step	Instrument Item Entered <sup>a</sup>	R <sup>b</sup>	R Square <sup>c</sup>	Cp <sup>d</sup>
1	29	.2915	.0850	106.235
2	16	.3768	.1420	79.819
3	28	.4265	.1819	61.934
4	7	.4671	.2182	45.817
5	26	.5008	.2508	31.558
6	19	.5175	.2678	25.108
7	33	.5307	.2816	20.224
8	18	.5409	.2926	16.734
9	13	.5500	.3025	13.807
10	24	.5596	.3131	10.482
11	25	.5682	.3228	7.686
12	10	.5753	.3310	5.598
13	30	.5808	.3373	4.437
14	15	.5850	.3422	4.013
15	35	.5889	.3468	3.714
16	32	.5927	.3513	3.481

<sup>a</sup> See the corresponding number in Appendix A for a description of the variable; all variables shown were significant at  $p < .15$ .

<sup>b</sup> R = multiple correlation coefficient.

<sup>c</sup> R<sup>2</sup> = the proportion of the variance of the criterion variable (NY100) accounted for by the independent variables (the identified instrument items).

<sup>d</sup> Cp-statistic is used to assist in the selection of items to be included in the prediction equations shown in Table 8. The equations include items entered in the regression procedure to the point where the Cp-statistic was closest to and smaller than the number of items entered at a given step.

added by the "degree received" item with higher degree recipients more likely to be frequent givers.

In addition, the subset of the first five variables appeared to be optimal using the Cp-statistic criterion. After five variables were entered the Cp-statistic was 3.8865. Thus, the decision was made to obtain regression weights from an analysis using only these five variables.

An examination of Table 2 shows that 16 items had regression coefficients significantly greater than .00 at  $p < .15$ , and those 16 collectively accounted for almost 42% of the variance in total dollars given (TD). Again, the items related to decade of graduation, perceived need for financial support, and highest degree received were the three that contributed most to the variance in total dollars given. However, in this instance the highest degree received made a greater contribution to total dollars given than did perceived need for financial support.

In addition, the subset of the first eight variables appeared to be optimal using the Cp-statistic criterion. After eight variables were entered the Cp-statistic was 5.197. Thus, the decision was made to obtain regression weights from an analysis using only these eight variables.

From Table 3 it can be seen that there were 16 items that had regression coefficients significantly greater than .00 at  $p < .15$ . In this particular instance the items making the greatest contribution to the variance in number of years contributing \$100 or greater (NY100) differed. The

first three in order of contribution were item 29 (gross annual household income), item 16 (overall attitude toward the university), and item 28 (sex). That is, approximately 9% of the variance was accounted for by item 29 where higher income families tended to give \$100 or greater more often. Item 16 contributed almost 6% more variance whereby alumni with more positive attitudes toward the university tended to appear at higher levels of NY100. Another approximately 4% of the variance was accounted for by item 28 in that males were more likely to give \$100 or greater. Overall, the 16 items accounted for slightly over 35% of the variance in the number of years alumni contributed \$100 or more.

In addition, the subset of the first 11 variables appeared to be optimal using the Cp-statistic criterion. After 11 variables were entered the Cp-statistic was 7.686. Thus, the decision was made to obtain regression weights from an analysis using only these 11 variables.

As has been previously noted, Pearson Product Moment correlation coefficients were computed as another basis for determining which instrument items would be retained for phase five of the research. These data are presented in Tables 4, 5, and 6. As can be seen from the data in Table 4, 15 items correlated significantly ( $p < .01$ ) with donor status. Twenty-two items correlated significantly with total dollars given as shown in Table 5. The 19 items that correlated significantly with the number of years of contributing \$100 or greater are listed in Table 6. As the

Table 4

Pearson Product Moment Correlation Coefficients for Each Significant ( $p < .01$ ) Phase Four Survey Instrument Item Relative to Donor Status (DS)

Instrument Item	Coefficient	p
26	-.34511	.0001
27	.32730	.0001
29	.24226	.0001
19	-.23755	.0001
28	-.23526	.0001
16	-.22923	.0001
39	-.22251	.0001
7	.17983	.0007
18	-.17721	.0008
36	-.14485	.0063
14	-.14374	.0068
6	-.14217	.0074
32	-.14197	.0075
22	.14149	.0077
12	-.13809	.0093

Table 5

Pearson Product Moment Correlation Coefficients for Each Significant ( $p < .01$ ) Phase Four Survey Instrument Item Relative to Total Dollars Given (TD)

Instrument Item	Coefficient	p
26	-.34767	.0001
29	.34036	.0001
27	.31391	.0001
28	-.31288	.0001
7	.29925	.0001
33	.27322	.0001
16	-.25938	.0001
18	-.24564	.0001
19	-.24415	.0001
36	-.23772	.0001
5	.22799	.0001
12	-.22074	.0001
34	-.22028	.0001
39	-.21029	.0001
6	-.19590	.0002
35	-.19527	.0002
32	-.18201	.0006
15	-.16927	.0014
4	.16106	.0024
14	-.14281	.0071
25	.14264	.0072
22	.13838	.0091

Table 6

Pearson Product Moment Correlation Coefficients for Each Significant ( $p < .01$ ) Phase Four Survey Instrument Item Relative to Number of Years Contributing \$100 or Greater (NY100)

Instrument Item	Coefficient	p
29	.29156	.0001
7	.28442	.0001
33	.27775	.0001
18	-.26945	.0001
26	-.26670	.0001
28	-.26113	.0001
16	-.25664	.0001
36	-.22107	.0001
27	.21967	.0001
19	-.21209	.0001
12	-.20511	.0001
6	-.18733	.0004
34	-.18329	.0005
32	-.18261	.0006
4	.17756	.0008
35	-.17347	.0010
13	-.17048	.0013
15	-.15822	.0028
5	.14363	.0068



tables are reviewed it is apparent that some of the same items which met the  $p < .15$  significance level for the regression procedure were selected to be included for the fifth phase of the survey as a result of meeting the  $p < .01$  criteria in terms of the Pearson correlations. However, there were some new variables which appeared as a result of the correlations. These were items 4 (post-graduation visits to campus), 6 (booster membership), 12 (social fraternity or sorority membership), 22 (son or daughter enrollment in university), and 34 (current civic/political organization membership).

Shown in summary form as Table 7 are the items from sections A-F retained for the phase five survey instrument as a result of the statistical analyses. As was noted in Chapter III all items in Sections G, H, and I were retained for the reason specified, even though they did not necessarily meet either of the criterion measures employed. Of the items in sections G, H, and I only 44 (importance of direct mail fund raising to giving) and 50 (importance of personal satisfaction to giving) had significant ( $p < .01$ ) correlations with donor status. Item 50 correlated significantly with total dollars given and with the number of years contributing \$100 or greater. Since items in sections G, H, and I were not administered to all alumni during phase four, and because the decision was made to retain the three sections in their entirety for the

Table 7

Summary of Relationships Between Phase Four Instrument Items  
(Sections A-F) and the Criterion Variables (DS, TD, and  
NY100)

Instrument Item	Stepwise Regression ( $p < .15$ )			Pearson Product Moment Correlation Coefficients ( $p < .01$ )			Retained for Phase Five Survey Instrument
	DS	TD	NY100	DS	TD	NY100	
1							no
2							no
3							no
4					X	X	yes
5		X			X	X	yes
6				X	X	X	yes
7	X	X	X	X	X	X	yes
8							no
9	X	X					yes
10			X				yes
11							no
12				X	X	X	yes
13		X	X			X	yes
14	X			X	X		yes
15			X		X	X	yes
16	X	X	X	X	X	X	yes
17							no
18			X	X	X	X	yes
19	X	X	X	X	X	X	yes

Table 7-Continued

Instrument Item	Stepwise Regression ( $p < .15$ )			Pearson Product Moment Correlation Coefficients ( $p < .01$ )			Retained for Phase Five Survey Instrument
	DS	TD	NY100	DS	TD	NY100	
20							no
21							no
22				X	X		yes
23							no
24	X	X	X				yes
25		X	X	X			yes
26	X	X	X	X	X	X	yes
27	X			X	X	X	yes
28	X	X	X	X	X	X	yes
29	X	X	X	X	X	X	yes
30	X	X	X				yes
31							no
32			X	X	X	X	yes
33		X	X	X		X	yes
34				X		X	yes
35		X	X	X		X	yes
36		X		X	X	X	yes
37							no
38							no
39	X	X		X	X		yes

phase five survey instrument, they were not included in Table 7.

As previously described, as the planned final part of the phase four analysis, three prediction equations were developed utilizing those items which met the Cp-statistic criterion explained earlier. The equations were developed from multiple regression procedures performed on reduced models. The prediction equation where donor status was used as the criterion included instrument item 7 (highest degree), 19 (perceived need of financial support), 26 (decade of graduation), 28 (sex), and 39 (support of other charitable causes). The prediction equation using total dollars given as the criterion variable incorporated instrument item 7 (highest degree), 9 (college of first choice), 16 (overall attitude toward university), 19 (perceived need of financial support), 26 (decade of graduation), 28 (sex), 29 (income), and 33 (employment type). The prediction equation using the number of years contributing \$100 or greater as the criterion variable included instrument item 7 (highest degree), 13 (honors program participation), 16 (overall attitude toward university), 18 (knowledge of other contributors), 19 (perceived need of financial support), 24 (other alumnus in family), 25 (son or daughter denied admission), 26 (decade of graduation), 28 (sex), 29 (income), and 33 (employment type). Summarized in Table 8 are the prediction equations

Table 8

Prediction Equations Derived From Phase Four Analysis


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For criterion variable donor status:

$$DS = 5.93 + .17 (7) - .45 (19) - .33 (26) - .46 (28) - .76 (39)$$

$$\text{Std error} = (.05) \quad (.10) \quad (.05) \quad (.15) \quad (.29)$$

For criterion variable total dollars given:

$$TD = 2.98 + .21 (7) + .48 (9) - .28 (16) - .43 (19) - .31 (26) - .59 (28) + .20 (29) + .34 (33)$$

$$\text{Std error} = (.05) \quad (.20) \quad (.11) \quad (.10) \quad (.05) \quad (.15) \quad (.05) \quad (.14)$$

For criterion variable number of years contributing \$100 or greater:

$$NY100 = 3.48 + .21 (7) - .41 (13) - .36 (16) - .47 (18) - .39 (19) + .42 (24) - .44 (25)$$

$$\text{Std error} = (.07) \quad (.17) \quad (.15) \quad (.20) \quad (.13) \quad (.17) \quad (.20)$$

$$- .33 (26) - .49 (28) + .22 (29) + .55 (33)$$

$$(.08) \quad (.20) \quad (.07) \quad (.19)$$

---

Note: Item numbers are contained in parentheses.

for each of the three criterion variables with the value for each independent variable included in each equation.

As a result of what was found with the planned analysis, it was decided that some form of post hoc analysis might prove useful. Therefore, an examination was made of the influence of paired variables on the regression procedure. These data are shown in Appendix C. This post hoc analysis did not contribute to the research findings, but is presented in Appendix C should the reader be interested.

#### Results From Second Alumni Sample (Phase Five) and Residual Analysis

Of the 500 alumni who received the final survey instrument, 360 (72.0%) responded. This included 53 responses from donor status one, 64 from DS two, 73 from DS three, 85 from DS four, and 85 from DS five. The distribution of the responses is shown as part of Appendix B. In this section the results of repeating the regression procedure described for phase four are reported first. Following, attention is given to the results from correlating each of the 31 items with each of the three criterion measures. The final and most important part of the phase five analysis is the residual analysis using the prediction equations from the results of both the phase four and the phase five alumni samples.

In Tables 9, 10, and 11 the results of the phase five stepwise regression procedures for each of the criterion variables--DS, TD, and NY100, respectively--are presented. A total of 27 variables was considered in the regressions. In Table 9 it can be seen that the seven items significant at  $p < .15$  accounted for just over 33% of the variance in donor status for the second survey sample. In comparison, 12 items accounted for almost 30% of the variance in donor status of the first alumni sample. Of the seven significant items in phase five, five were also significant at  $p < .15$  in the phase four regression procedure.

As shown in Table 10, 11 items were significant ( $p < .15$ ) in the regression procedure for total dollars given. These 11 items accounted for more than 34% of the variance in TD. The phase four regression analysis, on the other hand, yielded 16 variables significant at the .15 criterion, and these 16 accounted for almost 42% of the variance. Of the 11 items significant in the phase five regression procedure, 5 were also significant in the phase four regression.

The phase five regression procedure results for NY100 are contained in Table 11. Almost 30% of the variance in NY100 was explained by 11 variables. In comparison, the phase four regression procedure included 16 items significant at  $p < .15$  and these 16 accounted for just over 35% of the variance. Of the 11 significant phase five items, 9 were also significant in the phase four regression.

Table 9

Phase Five Stepwise Regression Procedure Summary  
Where Donor Status (DS) is the Criterion Variable

Step	Instrument Item Entered <sup>a</sup>	R <sup>b</sup>	R Square <sup>c</sup>	Cp
1	29 <sup>d</sup>	.3855	.1486	80.6655
2	27 <sup>d</sup>	.4983	.2483	31.5267
3	19 <sup>d</sup>	.5417	.2934	10.3906
4	28 <sup>d</sup>	.5567	.3099	3.9375
5	30 <sup>d</sup>	.5654	.3197	0.9121
6	18	.5712	.3263	-0.4690
7	13	.5756	.3313	-1.0202

<sup>a</sup> See the corresponding number in Appendix A for a description of the variable; all variables shown were significant at  $p < .15$ .

<sup>b</sup> R = multiple correlation coefficient.

<sup>c</sup>  $R^2$  = the proportion of the variance of the criterion variable (DS) accounted for by the independent variables (the identified instrument items).

<sup>d</sup> Item was also significant ( $p < .15$ ) in the phase four regression procedure for donor status.



Table 10

Phase Five Stepwise Regression Procedure Summary  
Where Total Dollars Given (TD) is the Criterion Variable

Step	Instrument Item Entered <sup>a</sup>	R <sup>b</sup>	R Square <sup>c</sup>	Cp
1	29 <sup>d</sup>	.4016	.1613	74.5893
2	27	.4561	.2080	52.5859
3	19 <sup>d</sup>	.5058	.2558	30.0662
4	4	.5283	.2791	20.1021
5	7 <sup>d</sup>	.5471	.2993	11.7218
6	30 <sup>d</sup>	.5587	.3121	7.1417
7	28 <sup>d</sup>	.5690	.3238	3.1688
8	34	.5746	.3302	1.8824
9	12	.5786	.3348	1.4878
10	32	.5822	.3390	1.3688
11	6	.5858	.3432	1.2012

<sup>a</sup> See the corresponding number in Appendix A for a description of the variable; all variables shown were significant at  $p < .15$ .

<sup>b</sup> R = multiple correlation coefficient.

<sup>c</sup> R<sup>2</sup> = the proportion of the variance of the criterion variable (TD) accounted for by the independent variables (the identified instrument items).

<sup>d</sup> Item was also significant ( $p < .15$ ) in the phase four regression procedure for total dollars given.

Table 11

Phase Five Stepwise Regression Procedure Summary Where  
Number of Years Contributing \$100 or Greater (NY100)  
is the Criterion Variable

Step	Instrument Item Entered <sup>a</sup>	R <sup>b</sup>	R Square <sup>c</sup>	Cp
1	29 <sup>d</sup>	.3594	.1292	71.2574
2	4	.4129	.1705	52.9699
3	32 <sup>d</sup>	.4480	.2007	40.1757
4	19 <sup>d</sup>	.4774	.2279	28.8108
5	36	.4979	.2479	20.9934
6	7 <sup>d</sup>	.5094	.2595	17.3383
7	25 <sup>d</sup>	.5218	.2723	13.0564
8	26 <sup>d</sup>	.5313	.2823	10.1443
9	35 <sup>d</sup>	.5381	.2895	8.5960
10	28 <sup>d</sup>	.5427	.2945	8.1204
11	30 <sup>d</sup>	.5472	.2994	7.7272

<sup>a</sup> See the corresponding number in Appendix A for a description of the variable; all variables shown were significant at  $p < .15$ .

<sup>b</sup> R = multiple correlation coefficient.

<sup>c</sup> R<sup>2</sup> = the proportion of the variance of the criterion variable (NY100) accounted for by the independent variables (the identified instrument items).

<sup>d</sup> Item was also significant ( $p < .15$ ) in the phase four regression procedure for number of year contributing \$100 or greater.

Pearson correlation coefficients for responses to the phase five survey instrument in relation to donor status are provided in Table 12. Of the items with a significant correlation ( $p < .01$ ) to DS, the five with the largest correlations were the same for the phase five survey responses as they were for phase four. The order, however, was slightly different. The significant correlations involved item 29 (income), item 27 (age), item 26 (decade of graduation), item 19 (perceived need of financial support), and item 28 (sex). Of the remaining significant correlations, seven were also significant in the phase four analysis and five were not.

Correlation coefficients for item responses in relation to total dollars given (Table 13) revealed that all 18 significant items had also been significant for the phase four alumni sample. Of the five from the second alumni sample with the largest correlations, three were also among the five largest correlations from the first alumni sample. These were survey instrument item 29 (income), item 27 (age), and item 26 (decade of graduation).

The significant correlations between the responses and number of years contributing \$100 or greater are shown in Table 14. It can be seen that 15 out of 16 items had also been significant for the responses to the phase four survey instrument. Of the five largest correlations from the phase five survey instrument, two also appeared among the five largest correlations of phase four. These shared

Table 12

Pearson Product Moment Correlation Coefficients for Each Significant ( $p < .01$ ) Phase Five Survey Instrument Item Relative to Donor Status (DS)

Instrument Item	Coefficient	p
29*	.38553	.0001
27*	.37833	.0001
26*	-.35534	.0001
19*	-.27125	.0001
28*	-.24131	.0001
25	.21817	.0001
18*	-.18964	.0003
32*	-.18910	.0003
34	-.18560	.0004
22*	.18029	.0006
4	.16755	.0014
6*	-.16497	.0017
36*	-.16274	.0020
39*	-.16259	.0020
30	.15320	.0036
12*	-.14853	.0047
35	-.14496	.0059

\*Indicates variables from the phase four survey instrument which had significant correlations as reported in Table 4.

Table 13

Pearson Product Moment Correlation Coefficients for Each Significant ( $p < .01$ ) Phase Five Survey Instrument Item Relative to Total Dollars Given (TD)

Instrument Item	Coefficient	p
29*	.40160	.0001
19*	-.28382	.0001
27*	.28314	.0001
26*	-.26583	.0001
18*	-.23927	.0001
34*	-.23670	.0001
4*	.23592	.0001
28*	-.23313	.0001
36*	-.21886	.0001
6*	-.21801	.0001
7*	.21069	.0001
25*	.17083	.0011
12*	-.16906	.0013
35*	-.16838	.0013
32*	-.16088	.0022
33*	.15474	.0032
16*	-.14471	.0059
5*	.13662	.0095

\*Indicates variables from the phase four survey instrument which had significant correlations as reported in Table 5.

Table 14

Pearson Product Moment Correlation Coefficients for Each Significant ( $p < .01$ ) Phase Five Survey Instrument Item Relative to Number of Years Contributing \$100 or Greater (NY100)

Instrument Item	Coefficient	p
29*	.35941	.0001
36*	-.26449	.0001
19*	-.24523	.0001
4*	.23820	.0001
26*	-.23281	.0001
34*	-.23259	.0001
27*	.22886	.0001
28*	-.22786	.0001
6*	-.19943	.0001
7*	.19132	.0003
18*	-.17945	.0006
33*	.17902	.0006
35*	-.17334	.0010
32*	-.17279	.0010
12*	-.17114	.0011
25	.14171	.0071

\*Indicates variables from the phase four survey instrument which had significant correlations as reported in Table 6.

significant correlations were item 29 (income) and item 26 (decade of graduation).

No correlation coefficients for items in sections G, H, and I were significantly ( $p < .01$ ) related to donor status. Items 45 (importance of telephone solicitation to giving) and 52 (importance of matching gift from employer to giving) correlated significantly with total dollars given. Item 52 alone correlated significantly with number of years contributing \$100 or greater.

The 354 responses from phase four were also subjected to the residual analysis. The responses were considered for each of the three prediction equations generated in the phase four analysis. Tables 15, 16, and 17 contain the results of the residual analyses for the 354 responses from the phase four survey instrument. As shown in Table 15, the prediction equation for donor status predicted correctly the level of donor status in 71 cases (20.1%) out of 354. The prediction equation was within one level of predicting correctly donor status in another 217 cases (61.3%). From Table 16 it can be seen that the prediction equation for total dollars given predicted correctly the level of TD in 121 cases (34.2%) of the total 354. The equation was within one level of predicting total dollars given for an additional 168 cases (47.5%). The prediction equation using the number of years contributing \$100 or greater as the criterion predicted correctly NY100 in 93 cases (26.3%) out

Table 15

Residual Analysis Summary Using Phase Four Sample Where Donor Status (DS) is the Criterion Variable

Actual Value of DS	Predicted Value of DS					Total
	1	2	3	4	5	
1	2*	21	16	5	0	44
2	0	11*	53	8	0	72
3	0	4	32*	34	0	70
4	0	6	51	26*	0	83
5	0	3	28	54	0*	85
Total	2	45	180	127	0	354

\*Correct predictions

Table 16

Residual Analysis Summary Using Phase Four Sample Where Total Dollars Given (TD) is the Criterion Variable

Actual Value of TD	Predicted Value of TD						Total
	1	2	3	4	5	6	
1	10*	15	18	2	0	0	45
2	2	34*	42	10	0	0	88
3	1	10	40*	27	1	0	79
4	0	6	35	29*	6	0	76
5	0	1	12	22	8*	0	43
6	0	0	3	14	6	0*	23
Total	13	66	150	104	21	0	354

\*Correct predictions



Table 17

Residual Analysis Summary Using Phase Four Sample Where  
Number of Years Contributing \$100 or Greater (NY100)  
is the Criterion Variable

Actual Value of NY100	Predicted Value of NY100						Total
	1	2	3	4	5	6	
1	62*	94	35	4	0	0	195
2	2	15*	19	5	0	0	41
3	1	6	3*	1	0	0	11
4	0	0	10	10*	1	0	21
5	3	12	25	25	3*	0	68
6	0	3	6	9	0	0*	18
Total	68	130	98	54	4	0	354

\*Correct predictions

of 354 (Table 17). Further, the equation was within one level of accuracy for another 158 cases (44.6%).

After the initial residual analysis, the 360 responses to the phase five survey instrument were analyzed using each of the three prediction equations. The results of the residual analysis for the responses from this sample may be seen in Tables 18, 19, and 20.

As shown in Table 18, using the phase five sample, the prediction equation for donor status predicted accurately the level of DS in 91 cases (25.3%) from the total of 360. The equation was within one level of accuracy for an additional 191 cases (53.1%). Presented in Table 19 are the

Table 18

Residual Analysis Summary Using Phase Five Sample Where Donor Status (DS) is the Criterion Variable

Actual Value of DS	Predicted Value of DS					Total
	1	2	3	4	5	
1	2*	17	28	6	0	53
2	0	9*	39	16	0	64
3	1	3	39*	30	0	73
4	1	3	40	41*	0	85
5	0	0	23	62	0*	85
Total	4	32	169	155	0	360

\*Correct predictions

Table 19

Residual Analysis Summary Using Phase Five Sample Where Total Dollars Given (TD) is the Criterion Variable

Actual Value of TD	Predicted Value of TD						Total
	1	2	3	4	5	6	
1	9*	22	16	7	0	0	54
2	3	25*	41	19	0	0	88
3	0	13	45*	20	1	0	79
4	3	6	28	28*	5	0	70
5	1	3	13	28	4*	0	49
6	0	0	5	10	5	0*	20
Total	16	69	148	112	15	0	360

\*Correct predictions

Table 20

Residual Analysis Summary Using Phase Five Sample Where  
Number of Years Contributing \$100 or Greater (NY100) is the  
Criterion Variable

Actual Value of NY100	Predicted Value of NY100						Total
	1	2	3	4	5	6	
1	69*	72	50	8	0	0	199
2	5	18*	18	3	0	0	44
3	4	5	13*	3	0	0	25
4	0	2	3	2*	0	0	7
5	3	15	29	14	1*	0	62
6	1	2	14	6	0	0*	23
Total	82	114	127	36	1	0	360

\*Correct predictions

results using the phase five sample and the total dollars given as the criterion. As can be seen there were 111 cases (30.8%) predicted correctly. Further, the equation was within one level of accuracy for TD from another 165 cases (45.8%). The prediction equation using the number of years contributing \$100 or greater and the phase five sample predicted correctly the level for 103 cases (28.6%), and an additional 120 cases (33.3%) were predicted within one level of accuracy (Table 20).

Shown in Table 21 is the variance that could be accounted for by each of the phase four prediction equations using both the phase four and phase five samples,

respectively. Only when donor status was the criterion was there a consistent explanation of variance with the phase four sample and the phase five sample; the variance accounted for was 22.4% and 23.3%, respectively. The prediction equation for total dollars given explained a much larger proportion (35.4%) of the variance with the phase four sample; however, the TD variance explained using the phase five sample dropped to 19.6%. The greatest variance explained by the prediction equations was when the number of years contributing \$100 or greater was the criterion. With the phase four sample this equation accounted for 41.1% of the variance, and with the phase five sample it accounted for 28.3%.

In addition, Table 21 shows the phase five cross-validated R square values. For each of the three criterion variables a predicted value was obtained by applying the phase four prediction equations to the phase five sample data. Next, the predicted values were correlated with the actual values on each criterion. The squares of the resulting correlation coefficients are the cross-validated R squares.

### Results In Relation to the Research Questions

Part of the first research question involved identifying variables that contribute significantly to measuring the extent of alumni giving. Of the 53 total

Table 21

Variance Explained by Each of the Phase Four Prediction Equations for Phase Four and Phase Five Samples

Prediction Equation for Criterion Variables	Phase Four Sample	Phase Five Sample	Phase Five Cross-Validated R <sup>2</sup>
Donor Status (DS)	22.4%	23.3%	.2453
Total Dollars Given (TD)	35.4%	19.6%	.2512
Number of Years Contributing \$100 or Greater (NY100)	41.1%	28.3%	.1929

items contained on the phase four survey instrument, 27 were retained from sections A-F because of their inclusion in the regression procedure at  $p < .15$  and/or because of their significant ( $p < .01$ ) Pearson Product Moment correlation coefficient. This was summarized in Table 7. As discussed previously, another 14 items from sections G-I were also retained. Thus, the phase five survey instrument contained 41 total items. When the analyses involving the multiple regressions and the Pearson correlations were performed for the 360 responses in phase five, 22 items out of the 27 in sections A-F met the criteria ( $p < .15$  for regressions and  $p < .01$  for correlations).

The second part of the first research question involved the amount of variance accounted for by the variables found significant. As seen in Table 1, 29.9% of the variance in donor status was explained by the 12 variables listed. Of

the variance in total dollars given, Table 2 showed that 41.9% was accounted for by the 16 variables listed. In Table 3 it was seen that 35.1% of the variance in number of years contributing \$100 or more was explained by the 16 variables shown. The phase five results included the fact that 33.1% of the variance in donor status was explained by 7 variables (Table 9), 34.3% of the variance in total dollars given was explained by 11 variables (Table 10), and 29.9% of the variance in number of years contributing \$100 or greater was explained by 11 variables (Table 11).

Research question two involved which combination of variables would be included in the formulation of a prediction equation to most accurately predict levels of each of the criterion variables. Using the Cp-statistic as an indicator, it was shown that five variables best predicted donor status. In addition, 8 variables best predicted total dollars given, and 11 variables best predicted number of years contributing \$100 or greater.

When the three prediction equations derived in phase four were applied to the responses in phase five the third research question was answered. As shown in Table 21, 23.3% of the variance in donor status for the phase five sample could be explained, while 19.6% of total dollars given was accounted for by the equation. Of the variance in number of years of contributing \$100 or greater, 28.3% was explained by the prediction equation for NY100. Also, for each of the three criterion variables a predicted value was obtained by

using the phase four prediction equations and the phase five sample data. The predicted values were correlated with the actual values on each criterion. The square of these correlation coefficients yielded a cross-validated R square for each of the three criterion variables. These R square values were .2453, .2512, and .1929 for donor status, total dollars given, and number of years contributing \$100 or greater, respectively.

## CHAPTER V

### SUMMARY, CONCLUSIONS, AND DISCUSSION

#### Summary

The purpose of the study was to identify a set of variables that could be used by public college and university fund raisers to predict the extent of alumni giving. To guide the study the following questions were posed:

1. Which variables contribute significantly to measuring the extent of alumni giving? What percentage of variance is explained?
2. When variables are entered sequentially in a prediction equation, what combination accounts for the greatest proportion of variance in predicting the extent of alumni giving?
3. When a prediction equation derived from one sample is tested on another sample, what proportion of the variance is explained?

To provide the data necessary to answer the above questions, there were five research phases; these were as follows:



1. A literature review was conducted to identify major conceptual categories of variables that had been found to relate to alumni giving.
2. Based on the search of the literature and the resulting identification of categories of variables, a first draft of a survey instrument was prepared containing those variables suspected as being potentially useful in identifying the extent of alumni giving.
3. This first draft survey instrument was reviewed by experts in the field, which consisted of a random sample of annual fund directors at public doctoral degree granting universities in the United States.
4. In the fourth phase of research a random sample of 500 alumni of the University of Florida received the survey instrument. After analysis by stepwise multiple regression and the calculation of Pearson Product Moment correlation coefficients, variables that were not significantly related to alumni giving at specified levels were deleted from the survey instrument. Prediction equations were derived from the responses of this sample of alumni. Variance which could be accounted for was measured by the prediction equations.

5. A second random sample of 500 alumni was administered a revised survey instrument based on the phase four findings. For this fifth phase of the research, analysis again included stepwise multiple regression and the calculation of Pearson Product Moment correlation coefficients. The prediction equations derived in phase four were applied to the data from phase five and the variance which could be explained was measured. Residual analysis was performed to determine how accurate the phase four prediction equations were in predicting the extent of alumni giving in both the first and the second alumni samples.

The dependent variable, the extent of alumni giving, was measured three different ways. The first criterion variable was donor status (DS) which consisted of the following five levels:

1. Non-donors
2. Sporadic donors of less than \$100
3. Sporadic donors of \$100-\$1000
4. Annual donors of less than \$100
5. Annual donors of \$100-\$1000

Total dollars given (TD) during the 5-year period covered by the study was the second criterion variable. It had the following six levels:

1. \$0
2. \$1-99
3. \$100-199
4. \$200-499
5. \$500-999
6. \$1000 or more

The third criterion variable represented the number of years during the 5-year period that the alumnus gave \$100 or greater (NY100). The following levels were utilized with NY100:

1. 0 years
2. 1 year
3. 2 years
4. 3 years
5. 4 years
6. 5 years

During phase three, 25 (62.5%) of the random sample of 40 annual fund directors responded to the proposed survey instrument. Due to the unexpected responses of the annual fund directors it was decided to retain all 53 of the proposed survey instrument variables in the phase four instrument. As shown in Appendix A, the survey instrument was divided into the following sections:

- A - Proximity and university contact
- B - Your university experience
- C - Private support
- D - The university and your family

- E - Alumnus information
- F - Community involvement
- G - Your perception of the university
- H - Fund raising methods
- I - Reasons for supporting the university

Sections A through F were sent to all levels of donor status in both the first and second samples of 500 alumni. Those in donor status two through five also received sections G, H, and I.

Of the first random sample of 500 alumni, 354 (70.8%) responded to the phase four survey instrument. Stepwise multiple regression procedures for each of the criterion variables (DS, TD, NY100) and each of the independent variables were performed. In addition, Pearson Product Moment correlation coefficients were calculated. Items in sections A through F that met either the .15 level of significance in one of the three regressions or the .01 level of significance in one of the correlations were retained in the survey instrument. Of the 39 items in sections A through F administered to all of the first alumni sample, 27 items met the above criteria and were retained for the phase five survey instrument. Further, as an effort to obtain additional descriptive data for previous donors, sections G, H, and I containing 14 items were retained in their entirety. Therefore, the phase five survey instrument contained a total of 41 items.

Using the Cp-statistic as a guideline, a prediction equation was formulated for each of the three criterion variables based on regression procedures performed on reduced models. The prediction equation for donor status accounted for 22.4% of the variance and included items 7, 19, 26, 28, and 39 (see Appendix A). Total dollars given had 35.4% of the variance explained by the prediction equation which included items 7, 9, 16, 19, 26, 28, 29, and 33. The prediction equation for number of years contributing \$100 or greater explained 41.1% of the variance and contained items 7, 13, 16, 18, 19, 24, 25, 26, 28, 29, and 33.

Of the 500 alumni surveyed in phase five, 360 (72.0%) responded. Multiple regression procedures were repeated as in phase four, and Pearson correlation coefficients were calculated. Residual analysis was performed to determine how accurately the three equations derived in phase four could predict correctly the levels of each of the three criterion variables for both the phase four and phase five samples. Donor status was predicted correctly in 20.1% of the phase four cases, and the equation was within one level of accuracy for another 61.3% of the cases. The equation for total dollars given was accurate for 34.2% of the cases and within one level of accuracy for another 47.5% of the cases. The number of years contributing \$100 or greater was predicted correctly in 26.3% of the phase four cases and was

within one level of accuracy for an additional 44.6% of the cases.

When applied to the phase five data, the prediction equation for donor status was accurate in 25.3% of the cases and was within one level of accuracy for another 53.1% of the cases. Total dollars given was as predicted correctly in 30.8% of the cases and was within one level for another 45.8%. The equation for number of years contributing \$100 or greater was accurate in predicting 28.6% of the cases and was within one level of accuracy for another 33.3%. For the phase five data, the prediction equations accounted for 23.3% of the variance in donor status, 19.6% of the variance in total dollars given, and 28.3% of the variance in the number of years contributing \$100 or greater. Cross-validated R square values from the correlation of predicted versus actual responses of all 360 alumni in phase five were .2453, .2512, and .1929 for DS, TD, and NY100, respectively.

### Conclusions

Based on the data analysis the following conclusions appear warranted:

1. There is an identifiable set of variables that contributes significantly to measuring the extent of alumni giving, and these variables can be used to explain a considerable proportion of the variance in such giving.

2. Using donor status as the criterion measure, the set of variables that best predicted the variance in alumni giving included item 7 (highest degree), item 19 (perceived need of financial support), item 26 (decade of graduation), item 28 (sex), and item 39 (support of other charitable causes).
3. With total dollars given as the criterion measure, the set of variables that best predicted the extent of alumni giving included item 7 (highest degree), item 9 (college of first choice), item 16 (overall attitude toward university), item 19 (perceived need of financial support), item 26 (decade of graduation), item 28 (sex), item 29 (income), and item 33 (employment type).
4. Using the number of years contributing \$100 or greater as the criterion measure, the set of variables that best predicted the variance in alumni giving included item 7 (highest degree), item 13 (honors program participation), item 16 (overall attitude toward university), item 18 (knowledge of other contributors), item 19 (perceived need of financial support), item 24 (other alumnus in family), item 25 (son or daughter denied admission), item 26 (decade of graduation),

item 28 (sex), item 29 (income), and item 33 (employment type).

5. Overall, based on the original alumni sample and the second sample used for cross-validation, the best predictors of alumni giving were those variables that appeared in all three prediction equations, as follows: item 7 (highest degree), item 19 (perceived need of financial support), item 26 (decade of graduation), and item 28 (sex). That is, alumni with higher degrees who perceive the university to be in great need of financial support, who graduated in earlier decades, and who are males, are more likely to contribute.

The first conclusion appears justified by the results of the multiple regression procedures conducted for each of the three criterion variables and by the Pearson correlation coefficients calculated for each independent variable with each of the criterion variables. Of the 39 items administered to the entire alumni sample, 27 were significant ( $p < .15$  for the regression and/or  $p < .01$  for the correlations) in their relationship to one or more of the criterion variables as measured by one or both of the analyses just described. Further, the regression procedures for the phase four sample revealed that 29.9% of the variance in DS, 41.9% of the variance in TD, and 35.1% of



the variance in NY100 could be explained by the items significant at the .15 level.

The second, third, and fourth conclusions are based on those instrument items which were included in the prediction equations as a consequence of utilizing the Cp-statistic as a guideline. Therefore, the 5-variable equation proposed for donor status in the second conclusion, the 8-variable equation described in the third conclusion for total dollars given, and the 11-variable equation derived for number of years contributing \$100 or greater (fourth conclusion), were those equations that best fit the Cp-statistic guideline. In phase four they accounted for 22.4%, 35.4%, and 41.1% of the variance in donor status, total dollars given, and number of years contributing \$100 or greater, respectively. Using the phase five sample they accounted for 23.3%, 19.6%, and 28.3% of the variance in DS, TD, and NY100, respectively.

In addition, when the actual responses from the second alumni sample were correlated with the predicted values (using the three prediction equations), the resulting R square values were .2453, .2512, and .1929 for DS, TD, and NY100, respectively. Furthermore, in phase four the equations provided predictions of complete accuracy in 20.1% of the cases for donor status, 34.2% of the cases for total dollars given, and 26.3% of the cases for number of years contributing \$100 or greater. In phase five the equations predicted correctly donor status in 25.3% of the cases,

total dollars given in 30.8% of the cases, and number of years contributing \$100 or greater in 28.6% of the cases.

Conclusion five was justified in that four variables appeared in all three prediction equations. These variables of commonality were item 7 (highest degree), item 19 (perceived need of financial support), item 26 (decade of graduation), and item 28 (sex).

### Discussion

In the discussion following, attention is given to three basic topics. First, there is a discussion of the findings of the investigation reported herein to previous pertinent research. This is followed by a discussion of the possible use of the results by fund raisers. The third and concluding part of the discussion is focused upon future needed research that can be suggested as a result of the investigation.

The results of the investigation and the discussion which follows should be reviewed within the context of the obvious limitations in the design of the investigation. Specifically, as has been repeatedly noted, the items included in the survey instrument as the basis for building the prediction equations were limited to those items that had been identified in previous research. Secondly, the alumni samples were both drawn from a single university. Even though there were two different samples, with the

second one used for cross-validation, there remains the question of external validity since only a single university's alumni were sampled. Third, as has been noted earlier, the data provided were from self reports and the accuracy of self reports is, to a degree, suspect.

In relation to previous research in the area of annual giving at public colleges and universities, it can be noted that many of the survey instrument items that were of most value in predicting the extent of alumni giving (i.e., those items appearing in one or more of the prediction equations), had been found by other researchers to be of value.

Blumenfeld and Sartain (1974) concluded that donors were more likely to be male (item 28) and hold an advanced degree (item 7) among other findings. Miracle (1977) found that University of Georgia annual fund givers were more involved in other charitable causes (item 39), were more involved in the community (item 34), and had a positive overall attitude toward the college (item 16). Lindenmann's (1983) report on the GAC survey stressed income (item 29) as a leading indicator of an alumnus' likelihood of giving.

Of the variables suggested by Sanders (1985) as being essential for alumni surveys, several were important to the results of the present research. Those variables included sex (item 28), age (item 27), marital status (item 30), annual family income (item 29), civic club membership (item 34), and support of other charitable causes (item 39). In his survey of Iowa State University alumni, Dietz (1985)

found a number of variables of value including degree of allegiance with the university (similar to item 16), postgraduate education (item 7), opinion of the importance of private support (item 19), and frequency of campus visits (items 4 and 5).

However, several variables found useful by other researchers were of little consequence in the present research. The items not found to be of value in this study included community size, number of children, and church membership (Sanders, 1985), and alumnus spouse (Miracle, 1977).

The findings of the present research are in stark contrast to those of McNally (1985). He found that, among other variables, age, gender, occupation, and degree did not differentiate contributors and non-contributors.

The usefulness of the research findings by annual fund directors is evidenced by the results of the phase three expert review. Phase three of the research involved expert review of the proposed survey instrument by a random sample of annual fund directors, as described previously. As has been noted, the original research plan (which was later altered) was to delete all items not identified by 75% or more of the experts as having the potential to differentiate donors and non-donors. In Appendix A those items that would have been deleted after expert review (had the original plan been followed) are marked with an asterisk. Of the items

that would have been deleted by the annual fund directors, 21 were in sections A through F and one was in section G.

Of the 21 items in sections A through F originally intended for deletion, the following were ultimately included in one or more of the prediction equations: item 7 (highest degree received), item 9 (college of first choice), item 13 (honor program participation), item 18 (knowledge of other contributors), item 28 (sex), and item 33 (employment type). Further, of the above items which the annual fund directors would have deleted, item 7 (highest degree received) and item 28 (sex) appeared in all three equations. Thus, it might be suggested that annual fund directors tend to operate on perceptions which may not always be accurate (i.e., their knowledge base is incomplete).

The application of the study might include the development of a prediction equation by other public colleges and universities. A random sample of alumni could receive a survey instrument which included items from this study that were significant at  $p < .15$  in the multiple regression analysis of the second alumni sample of phase five plus those items that correlated significantly ( $p < .01$ ) with the criterion variables in phase five. A matrix of the items which meet these two criteria would yield a survey containing the 22 items marked with a (+) in Appendix A. Stepwise regression could yield a prediction equation using the Cp-statistic as an indicator. The

equation, in turn, could be utilized to predict the extent of alumni giving at the particular college or university.

If institutional fund raisers are not able to expend the necessary effort as indicated by the application suggested above, an alternative might be to concentrate, on a trial basis, on those variables found to be most useful in the present study. Using available file data, the fund raisers could concentrate their efforts on select alumni. Specifically, fund raising efforts could be focused on older male alumni with higher degrees who are known to perceive a strong need for university support.

Another alternative would involve the use of the prediction equation for total dollars given. Of the three equations applied to the phase five data, this 8-variable equation for predicting the level of TD was the most accurate (i.e., it was able to predict correctly in 30.8% of the cases and was within one level of accuracy for another 45.8%). Based on this equation the following profile represents the alumnus most likely to give: a male who graduated in an earlier decade with a higher degree, who has a positive attitude toward the university, perceives a strong need for university support, has a higher gross annual household income, is self-employed, and for whom the university was the college of first choice. Total dollars given is a common element of file data and is the criterion variable of most concern to the majority of fund raisers. The variables contained in the prediction equation for TD

which are not part of an institution's file data could be used to create a survey instrument much more brief than those located in Appendices A and B.

It should be emphasized that these are less desirable alternatives because of the limitations mentioned earlier. However, the alternatives would be preferable to fund raisers operating solely on the basis of subjective measures, as was discussed earlier.

Future researchers need to proceed with caution when trying to identify certain subsets of donors. The residual analysis summaries (Tables 15-20) reported in this study revealed that the highest donor level of each criterion variable was not predicted well.

Future research might include replicating this study in similar public, comprehensive, doctoral degree-granting institutions in other regions of the nation. In addition, the study could be replicated in public institutions which are different from the University of Florida such as those which draw on a population of non-residential students (e.g., a major metropolitan university), or those which are regional institutions rather than major land-grant institutions.

## APPENDIX A

### PHASE FOUR SURVEY INSTRUMENT

Notes: Items marked by an asterisk (\*) would not have been included after expert review, per explanation in the data collection section of Chapter III. Items marked by a plus (+) could theoretically be included in developing a survey instrument for another college or university as described in Chapter V. Following each item response is the number of persons in the phase four sample so responding. Item totals less than 354 are due to failure to respond.



## UNIVERSITY OF FLORIDA ALUMNUS SURVEY

## YOUR PARTICIPATION IS IMPORTANT!!!

You are one of a small random sample of alumni selected to participate in a special project. PLEASE complete this survey to the best of your ability and return it by **January 10, 1987** in the postage paid envelope provided. All answers are strictly confidential.

Please select one response which best answers each item. Circle the appropriate answer with a pen or pencil.

## Sample Item

- |  |                 |
|--|-----------------|
| What is the highest degree you received from UF? | a. Bachelor's   |
|  | b. Master's     |
|  | c. Specialist   |
|  | d. Professional |
|  | e. Doctorate    |

A. Proximity & university contact

- |  |                             |
|--|-----------------------------|
| * 1. Have you lived in Florida the majority of time since graduation?              | a. yes (250)                |
|  | b. no (104)                 |
| * 2. What is the population of the city in which you live?                         | a. Under 5,000 (15)         |
|  | b. 5,000 - 10,000 (17)      |
|  | c. 10,000 - 50,000 (72)     |
|  | d. 50,000 - 250,000 (110)   |
|  | e. over 250,000 (140)       |
| * 3. How long would it take you to drive to UF?                                    | a. less than 1 hour (36)    |
|  | b. 1-2 hours (80)           |
|  | c. 3-4 hours (68)           |
|  | d. 5-7 hours (76)           |
|  | e. 8 or more hours (94)     |
| + 4. Have you visited the campus since graduation for an <u>athletic</u> event?    | a. no (125)                 |
|  | b. once (27)                |
|  | c. twice (22)               |
|  | d. three times (14)         |
|  | e. four or more times (166) |
| + 5. Have you visited the campus since graduation for a <u>non-athletic</u> event? | a. no (92)                  |
|  | b. once (53)                |
|  | c. twice (53)               |
|  | d. three times (29)         |
|  | e. four or more times (127) |

- + 6. Are you a member now (or previously) of Gator Boosters
  - a. yes (92)
  - b. no (262)

**B. Your university experience**

- \* +7. What is the highest degree you received at UF?
  - a. none (4)
  - b. Bachelor's (208)
  - c. Master's (50)
  - d. Specialist (9)
  - e. Professional (MD, JD, DMD, VMD) (57)
  - f. Doctorate (26)
- 8. Did you receive a degree elsewhere, either before or after earning your degree at UF?
  - a. Yes, I received a degree before entering UF (83)
  - b. Yes, I received a degree after graduating from UF (56)
  - c. No (215)
- \* 9. For the degree you sought when you came to UF, was this your college of first choice?
  - a. yes (316)
  - b. no (38)
- 10. As a student did you receive financial support (scholarship, grant, loan) from UF?
  - a. yes (124)
  - b. no (230)
- \* 11. Did you apply for but were refused financial support from UF?
  - a. yes (14)
  - b. no (340)
- +12. Were you a member of a social fraternity or sorority?
  - a. yes (130)
  - b. no (224)
- \*+13. Were you a member of an honor society of any sort, or did you participate in the honors program or the Merit Scholars Program?
  - a. yes (127)
  - b. no (227)
- 14. Did you participate in any form of student government?
  - a. yes (73)
  - b. no (281)
- 15. Were you a member of a UF organization other than social fraternity/sorority or student government (eg, Speech & Debate Team, FBK, Cicerones)?
  - a. yes (142)
  - b. no (212)

- +16. How would you rank your overall attitude toward UF?
- a. very positive (215)
  - b. positive (126)
  - c. neutral (11)
  - d. negative (1)
  - e. very negative (1)

- \* 17. If you had it to do over again, would you attend UF?
- a. yes (338)
  - b. no (16)

### C. Private support

- +18. Do you know any fellow alumni who make contributions to UF?
- a. yes (270)
  - b. no (84)
- +19. How strongly do you think UF needs financial support from alumni?
- a. strong need for support (176)
  - b. moderate need for support (157)
  - c. weak need for support (16)
  - d. no need for support (5)
- \* 20. In your opinion, which type of college or university has the greater need for financial support from alumni?
- a. private college and universities (157)
  - b. public (state) colleges & universities (45)
  - c. the need is about equal between a & b (149)
  - d. neither a nor b need alumni support (3)
- \* 21. How do you anticipate your financial support of UF changing in the future?
- a. I expect to increase support (129)
  - b. I expect to decrease support (11)
  - c. I expect my support to remain at its present level (214)

### D. The university and your family

- +22. Do you have a son or daughter who is a UF graduate, or who is currently enrolled, or who plans to attend?
- a. yes (87)
  - b. no (174)
  - c. not applicable (93)
23. Is your spouse a UF graduate?
- a. yes (64)
  - b. no (228)
  - c. not applicable (62)

24. Did your mother or father or other relative (other than children) attend UF?
- a. yes (130)  
b. no (224)
- +25. Do you have a son or daughter who was denied admission to UF?
- a. yes (9)  
b. no (248)  
c. no applicable (97)
- +26. During which decade did you graduate?
- a. prior to 1950 (41)  
b. 1950-1959 (51)  
c. 1960-1969 (89)  
d. 1970-1979 (116)  
e. 1980-present (57)

**E. Alumnus information**

- +27. Your age group.
- a. under 30 (49)  
b. 30-39 (104)  
c. 40-49 (90)  
d. 50-59 (58)  
e. 60 or over (53)
- \*+28. Sex.
- a. male (273)  
b. female (81)
- +29. Your gross annual household income.
- a. under \$25,000 (22)  
b. \$25,000-\$34,999 (44)  
c. \$35,000-\$49,999 (67)  
d. \$50,000-\$74,999 (85)  
e. \$75,000 or more (136)
- \*+30. What is your marital status?
- a. single (63)  
b. married (261)  
c. divorced (18)  
d. separated (3)  
e. widowed (9)
- \* 31. How many people presently comprise your household (children, spouse, and other dependents)?
- a. 1 (72)  
b. 2 (113)  
c. 3 (66)  
d. 4 (69)  
e. 5 or more (34)
- \*+32. What is your employment status?
- a. full-time (279)  
b. part-time (21)  
c. retired (37)  
d. not employed (by choice) (13)  
e. unemployed (4)
- \*+33. What is your employment type?
- a. self-employed (113)  
b. employed by someone else (204)  
c. not employed (37)

### F. Community involvement

- \*+34. Are you a member of a civic/  
political organization (eg,  
Rotary, Business & Professional  
Women, Chamber of Commerce,  
League of Women Voters)?
- a. yes (154)  
b. no (200)
- \*+35. Are you a member of a fraternal  
organization such as Eastern  
Star or Elks?
- a. yes (44)  
b. no (310)
- \*+36. Do you belong to a country club?
- a. yes (80)  
b. no (274)
- \* 37. Do you belong to an athletic  
health, or racquet club?
- a. yes (136)  
b. no (218)
- \* 38. Do you attend church or other  
religious service?
- a. less than once a year  
(93)  
b. less than once a month  
(89)  
c. once or twice a month  
(43)  
d. more than twice a month  
(129)
- +39. Do you support other charitable  
causes (eg, cultural/artistic  
programs, United Way, American  
Cancer Society)?
- a. yes (335)  
b. no (19)

### G. Your perception of the university

- |  | Poor |   |   | Excellent |
|--|------|---|---|-----------|
|  | 1    | 2 | 3 | 4 5       |
- Please rate the following
40. Academic quality of  
UF as a whole. 1 (0) 2 (0) 3 (26) 4 (179) 5 (103)
41. Academic quality of the  
particular college you  
attended/graduated from  
at UF (most recent college  
if more than one). 1 (1) 2 (1) 3 (26) 4 (152) 5 (128)
- \* 42. University athletic program. 1 (1) 2 (10) 3 (53) 4 (148) 5 (88)
43. Overall reputation of UF  
(academics, athletics,  
research service to the  
state, etc). 1 (0) 2 (2) 3 (36) 4 (177) 5 (94)

H. Fund raising methods

Not important			Very important	
1	2	3	4	5

How important were the following  
fund-raising efforts in  
motivating you to give to UF?

- |   |         |        |         |        |        |
|---|---------|--------|---------|--------|--------|
| 44. Letters received in the mail.                 | 1 (38)  | 2 (49) | 3 (107) | 4 (69) | 5 (44) |
| 45. Telephone calls received.                     | 1 (83)  | 2 (56) | 3 (62)  | 4 (58) | 5 (34) |
| 46. Personal visitations made by UF fund raisers. | 1 (149) | 2 (48) | 3 (22)  | 4 (11) | 5 (12) |
| 47. Personal visitations made by other alumni.    | 1 (150) | 2 (44) | 3 (25)  | 4 (12) | 5 (12) |
| 48. Other _____                                   | 1       | 2      | 3       | 4      | 5      |

I. Reasons for supporting the university

Not important			Very important	
1	2	3	4	5

How important were these factors  
in your decision to give?

- |                                    |         |        |        |         |         |
|------------------------------------|---------|--------|--------|---------|---------|
| 49. Tax deductibility of the gift. | 1 (57)  | 2 (46) | 3 (81) | 4 (64)  | 5 (44)  |
| 50. Personal satisfaction.         | 1 (3)   | 2 (7)  | 3 (35) | 4 (125) | 5 (138) |
| 51. Ability to restrict my gift.   | 1 (103) | 2 (41) | 3 (55) | 4 (48)  | 5 (31)  |
| 52. Matching gift from employer    | 1 (167) | 2 (18) | 3 (23) | 4 (30)  | 5 (17)  |
| 53. Other _____                    | 1       | 2      | 3      | 4       | 5       |

PLEASE BE SURE YOU HAVE ANSWERED ALL QUESTIONS.

PLEASE RETURN THE SURVEY IN THE ENCLOSED POSTAGE PAID ENVELOPE. THANK YOU  
VERY MUCH.

## APPENDIX B

### PHASE FIVE SURVEY INSTRUMENT

Notes: Item numbers as they originally appeared on the phase four survey instrument are noted in parentheses in the left-hand column. Following each item response is the number of persons in the phase five sample so responding. Item totals less than 360 are due to failure to respond.

## UNIVERSITY OF FLORIDA ALUMNUS SURVEY

## YOUR PARTICIPATION IS IMPORTANT!!!

You are one of a small random sample of alumni selected to participate in a special project. PLEASE complete this survey to the best of your ability and return it by **March 23, 1987** in the postage paid envelope provided. All answers are strictly confidential.

Please select one response which best answers each item. Circle the appropriate answer with a pen or pencil.

## Sample Item

What is the highest degree you received from UF?

- a. Bachelor's
- b. Master's
- c. Specialist
- d. Professional
- e. Doctorate

**A. Proximity & university contact**

- (4) 1. Have you visited the campus since graduation for an athletic event?
- a. no (116)
  - b. once (31)
  - c. twice (29)
  - d. three times (21)
  - e. four or more times (163)
- (5) 2. Have you visited the campus since graduation for a non-athletic event?
- a. no (95)
  - b. once (56)
  - c. twice (44)
  - d. three times (25)
  - e. four or more times (140)
- (6) 3. Are you a member now (or previously) of Gator Boosters?
- a. yes (83)
  - b. no (277)

**B. Your university experience**

- (7) 4. What is the highest degree you received at UF?
- a. none (4)
  - b. Bachelor's (206)
  - c. Master's (48)
  - d. Specialist (4)
  - e. Professional (MD, JD, DMD, VMD) (71)
  - f. Doctorate (27)
- (9) 5. For the degree you sought when you came to UF, was this your college of first choice?
- a. yes (318)
  - b. no (42)



- (10) 6. As a student did you receive financial support (scholarship, grant, loan) from UF? a. yes (117)  
b. no (243)
- (12) 7. Were you a member of a social fraternity or sorority? a. yes (120)  
b. no (240)
- (13) 8. Were you a member of an honor society of any sort, or did you participate in the honors program or the Merit Scholars Program? a. yes (126)  
b. no (234)
- (14) 9. Did you participate in any form of student government? a. yes (59)  
b. no (301)
- (15) 10. Were you a member of a UF organization other than social fraternity/sorority or student government (eg, Speech & Debate Team, FBK, Cicerones)? a. yes (105)  
b. no (255)
- (16) 11. How would you rank your overall attitude toward UF? a. very positive (189)  
b. positive (145)  
c. neutral (21)  
d. negative (4)  
e. very negative (1)

### C. Private support

- (18) 12. Do you know any fellow alumni who make contributions to UF? a. yes (256)  
b. no (104)
- (19) 13. How strongly do you think UF needs financial support from alumni? a. strong need for support (174)  
b. moderate need for support (170)  
c. Weak need for support (13)  
d. no need for support (3)

### D. The university and your family

- (22) 14. Do you have a son or daughter who is a UF graduate, or who is currently enrolled, or who plans to attend? a. yes (80)  
b. no (190)  
c. not applicable (90)
- (24) 15. Did your mother, father or other relative (other than children) attend UF? a. yes (122)  
b. no (238)
- (25) 16. Do you have a son or daughter who was denied admission to a. yes (8)  
b. no (252)  
c. not applicable (100)

- (26) 17. During which decade did you graduate?
- a. prior to 1950 (28)
  - b. 1950-1959 (57)
  - c. 1960-1969 (72)
  - d. 1970-1979 (137)
  - e. 1980-present (66)

**E. Alumnus information**

- (27) 18. Your age group.
- a. under 30 (46)
  - b. 30-39 (118)
  - c. 40-49 (86)
  - d. 50-59 (63)
  - e. 60 or over (47)
- (28) 19. Sex.
- a. male (278)
  - b. female (81)
- (29) 20. Your gross annual household income.
- a. under \$25,000 (26)
  - b. \$25,000-\$34,999 (43)
  - c. \$35,000-\$49,999 (63)
  - d. \$50,000-\$74,999 (96)
  - e. \$75,000 or more (132)
- (30) 21. What is your current marital status?
- a. single (61)
  - b. married (265)
  - c. divorced (26)
  - d. separated (2)
  - e. widowed (6)
- (32) 22. What is your employment status?
- a. full-time (296)
  - b. part-time (16)
  - c. retired (31)
  - d. not employed (by choice) (11)
  - e. unemployed (6)
- (33) 23. What is your employment type?
- a. self-employed (106)
  - b. employed by someone else (214)
  - c. retired, not employed, unemployed (40)

**F. Community involvement**

- (34) 24. Are you a member of a civic/political organization (eg, Rotary, Business & Professional Women, Chamber of Commerce, League of Women Voters)?
- a. yes (151)
  - b. no (209)
- (35) 25. Are you a member of a fraternal organization such as Eastern Star or Elks?
- a. yes (40)
  - b. no (320)

- (36) 26. Do you belong to a country club? a. yes (79)  
b. no (281)

- (39) 27. Do you support other charitable causes (eg, cultural/artistic programs, United Way, American Cancer Society)? a. yes (339)  
b. no (20)

G. Your perception of the university

	Not Applicable	Poor			Excellent		
	N/A	1	2	3	4	5	
Please rate the following							
(40) 28. Academic quality of UF as a whole.	N/A (61)	1 (0)	2 (1)	3 (44)	4 (182)	5 (74)	
(41) 29. Academic quality of the particular college you attended/graduated from at UF (most recent college if more than one).	N/A (55)	1 (0)	2 (4)	3 (43)	4 (161)	5 (99)	
(42) 30. University athletic program.	N/A (74)	1 (3)	2 (5)	3 (67)	4 (150)	5 (63)	
(43) 31. Overall reputation of UF (academics, athletics, research, service to the state, etc).	N/A (56)	1 (2)	2 (2)	3 (54)	4 (181)	5 (67)	

H. Fund raising methods

H.	<u>Fund raising methods</u>	Not Applicable <u>N/A</u>	Not important <u>1            2            3</u>			Very important <u>4            5</u>		
How important were the following efforts in motivating you to give to UF?								
(44)	32. Letters received in the mail.	N/A (65)	1 (38)	2 (40)	3 (97)	4 (96)	5 (26)	
(45)	33. Telephone calls received.	N/A (75)	1 (76)	2 (38)	3 (78)	4 (76)	5 (19)	
(46)	34. Personal visitations made by UF fund raisers.	N/A (251)	1 (58)	2 (23)	3 (12)	4 (14)	5 (4)	
(47)	35. Personal visitations made by other alumni.	N/A (260)	1 (58)	2 (22)	3 (13)	4 (6)	5 (3)	

	Not Applicable N/A	1	2	3	4	5
(48) 36. Other _____	N/A	1	2	3	4	5

I. Reasons for supporting the university

How important were these factors in your decision to give?

	Not Applicable N/A	1	2	3	4	5
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(49) 37. Tax deductibility of the gift. N/A (70) 1 (65) 2 (50) 3 (96) 4 (56) 5 (25)

(50) 38. Personal satisfaction. N/A (62) 1 (8) 2 (7) 3 (50) 4 (134) 5 (101)

(51) 39. Ability to restrict my gift to a specific part of campus. N/A (85) 1 (45) 2 (35) 3 (54) 4 (88) 5 (55)

(52) 40. Matching gift from employer. N/A (248) 1 (56) 2 (15) 3 (9) 4 (23) 5 (11)

(53) 41. Other \_\_\_\_\_ N/A 1 2 3 4 5

PLEASE BE SURE YOU HAVE ANSWERED ALL QUESTIONS.

PLEASE RETURN THE SURVEY IN THE ENCLOSED POSTAGE PAID ENVELOPE. THANK YOU VERY MUCH.

APPENDIX C

PAIRS ENTRY STEPWISE REGRESSION SUMMARIES  
FOR PHASE FOUR

1. Pairs Entry Stepwise Regression Procedure Summary  
for Donor Status

<u>Step</u>	<u>Instrument Items</u>	<u>R Square</u>
1	16 + 26	.1601
2	7 + 29	.2043
3	19 + 28	.2386
4	26 + 39	.2698
5	9 + 24	.2850
6	30 + 36	.2992

2. Pairs Entry Stepwise Regression Procedure Summary  
for Total Dollars Given

<u>Step</u>	<u>Instrument Items</u>	<u>R Square</u>
1	27 + 29	.1799
2	19 + 28	.2886
3	7 + 33	.3471
4	16 + 39	.3711
5	9 + 19	.4065
6	5 + 7	.4115
7	5 + 19	.4118
8	7 + 13	.4220

3. Pairs Entry Stepwise Regression Procedure Summary  
for Number of Years Contributing \$100 or Greater

<u>Step</u>	<u>Instrument Items</u>	<u>R Square</u>
1	7 + 29	.1443
2	6 + 28	.2682
3	13 + 16	.2978
4	7 + 26	.2982
5	19 + 30	.3253
6	10 + 24	.3441
7	30 + 33	.3591

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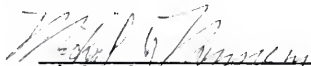
## BIOGRAPHICAL SKETCH

Michael L. House was born in Ft. Myers, Florida, to Morgan and Marion House, and he graduated from Ft. Myers High School. He received in 1975 a Bachelor of Science degree in pharmacy and in 1978 a master's degree in educational administration, both from the University of Florida.

From 1975 through 1982, Mr. House served on the faculty of the College of Pharmacy, University of Florida. From 1982 through 1984, he was assistant to the president of the American Pharmaceutical Association in Washington, DC. Since 1984 he has worked with the University of Florida Foundation, serving as director of annual funds from 1985 to present.

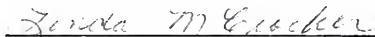
Mr. House is married to Linda Specht House. Their children are Kelly, Jarret, and Kimberly.

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.



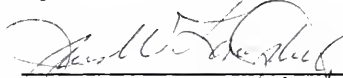
Michael Y. Nunnery, Chairman  
Professor of Educational  
Leadership

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.



Linda M. Crocker  
Professor of Foundations of  
Education

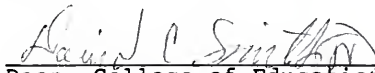
I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.



James W. Longstreth  
Associate Professor of  
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This dissertation was submitted to the Graduate Faculty of the College of Education and to the Graduate School and was accepted as partial fulfillment of the requirements for the degree of Doctor of Philosophy.

August 1987



Dean, College of Education

Dean, Graduate School



UNIVERSITY OF FLORIDA



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